RADIO-PERCEPTION

THE JOURNAL OF THE
BRITISH SOCIETY OF DOWSERS

Vol. IX No. 70 DECEMBER, 1950

CONTENTS

	Page
Notices	185
Members	187
Annual General Meeting	188
Summer Meeting	195
Rational and Human Radiesthesia By Pierre Béasse	198
Thoughts on Time By W. E. Benham, D.Sc. (Hon.), F. Inst. P., F.R.S.A.	200
Infiltration to Underground of Rainwater By Dr. V. L. Bosazza	202
Part One	
The Radiesthetic Resonator By Victor Dumert, A.M.I.R.E.	205
Significant Developments in the Problem of Earth Rays A lecture by J. H. Esvelt	214
The Physics of Earth Rays By R. D. Wetschky	222
A Dowser In New England	229
Part Three	
Tracing the Lost By J. Cecil Maby. B.Sc., A.R.C.S., F.R.A.S.	230
Notes and News	232
Letters to the Editor	236
Reviews	238
Books and Appliances	*rear cover*

Published quarterly by the Society at York House, Portugal St., W.C.2
Price to Non-Members, 3/-

BRITISH SOCIETY OF DOWSERS

OFFICERS AND COUNCIL, 1950-51

President

COLONEL A. H. BELL, D.S.O., O.B.E., M.R.I.

Vice-Presidents

Major C. A. POGSON, M.C.
O. F. PARKER, Esq., A.R.S.M., M.A., F.S.A.
G. UNDERWOOD, Esq.

Members of Council

Mrs. G. M. BARRACLOUGH, A.R.C.A.
L. E. EEMAN, Esq.
V. D. WETHERED, Esq., B.Sc.
Colonel K. W. MERRYLEES, O.B.E., B.A., M.I.MECH.E.
A. T. WESTLAKE, B.A., M.B., B.Chir., M.R.C.S., L.R.C.P.
L. J. LATHAM, Esq., F.R.G.S., F.G.S., F.R.A.S.
C. SOMERS TAYLOR, Esq., M.A.,
Secretary and Treasurer

Assistant Secretary

Miss E. H. LAMPSON, York House, Portugal Street, London, W.C.2.
Tel: Holborn 0805

JOURNAL OF THE
BRITISH SOCIETY OF DOWSERS

Vol. IX No. 70 December, 1950

NOTICES

The appeal published in the two preceding *Journals* has met with very poor response. It is therefore repeated in the hope that practising dowsers will realise the importance of their co-operation :

In order to provide evidence for inquirers and also data for meeting the prejudice against dowsing for water, which is still frequently encountered, members who practise the art are earnestly requested to send to the Editor information regarding locations made by them, on the following heads :—

(*a*) Place
(*b*) Depth—estimated and actual
(*c*) Quantity—estimated and actual
(*d*) Name and address of employer

For purposes of verification (*d*) is essential, and it is desirable that predictions regarding depth and quantity should be sent in as soon as the locations have been made.

* * * *

La Revue Internationale de Radiesthésie has done us the honour of devoting their issue No. 21 to *La Radiesthésie Britannique*. A review appears on pp. 239.

* * * *

A notice has been received from Dr. S. W. Tromp about the founding of a " Stichting ter Bevordering van der Psychische Physica " (Institute for the advancement of Psychic Physics) at Gravenhage in Holland. It contains references to the research already carried out on the effects of external physical influences on animal health, and stresses the desirability of further investigation. It is with this object and also for the study of paranormal effects that the Institute is to be founded. In addition to research work carried out by the Institute financial assistance for research outside it will be given.

The Government was approached on the matter but, though sympathetic, has no funds to devote to this object. It is therefore proposed to obtain funds from private sources. The notice is accompanied by a list of the 11 Statutes of the Institute.

* * * *

The following book has been added to the library :

The Geology of Water Supply, by Sir Cyril Fox, 1949, 206 pages

* * * *

The following books are published by the Society :—

Dowsing, by Captain W. H. Trinder, 10/- (7/6 to members)

Radiations, by T. Bedford Franklin, 8/6

A Radiesthetic Approach to Health and Homoeopathy, by V. D. Wethered, will appear shortly, price 10/6 (8/6 to members).

* * * *

Reprints of the article by Colonel K. W. Merrylees, entitled "Notes for Beginners," can be obtained from the Editor.

* * * *

Reprints of the lecture given by Dr. A. T. Westlake on December 14th, 1949, "Wanderings in the Radiesthetic Field," can be obtained from the Editor.

* * * *

Contributions for the *Journal*, preferably in typescript, should be sent to the Editor at least five weeks before the first day of March, June, September and December, if they are to appear in the respective *Journals* for those months.

* * * *

The Title Page and Contents of Vol. VIII can be obtained from the Editor on application.

* * * *

The price of new *Journals* to members, in excess of the free number, and of old *Journals*, is 2/- and 1/6 respectively.

Six free copies of the *Journal* will be given, on request, to writers of articles in it, in addition to the usual copy.

* * * *

The Society's badges can be obtained from the Honorary Secretary for 1/3 post free.

* * * *

Communications for the Editor, and inquiries, should be sent to Colonel A. H. Bell, York House, Portugal Street, London, W.C.2.

MEMBERS

* Life Members

NEW

BANKES, O. R., 1320 Columbia Avenue, Kenhorst, Reading, Penna., U.S.A.
CAIRNDUFF, J., Ballycoan, Purdysburn, N. Ireland
COETZEE, G., 46 Helvellyn Road, The Hill, Johannesburg, Transvaal
HOWE, Dr. E. G., 146 Harley Street, W.1
*KAYE, Miss G. D. F., The Dell, South Bank, Oxton, Birkenhead
LEE, A. E., 34 St. Raphael's Way, Neasden, N.W.10
LEIBY, R. M., 926 Penn Avenue, Wyomissing, Penna., U.S.A.
NOLT, E. H., R.D. 1, Wernersville, Penna., U.S.A.
O'DOHERTY, J., 32 Greenlea Road, Terenure, Dublin
DE ROBECK, Brigadier The Baron, C.B.E., Gowran Grange, Naas, Co. Kildare
ST. MAUR, F. P., Hampton Hill, Swanmore, Southampton
SETH, K., 11 Rochdale Drive, Singapore
TAYLOR, E., Durhamfield Farm, Shotley Bridge, Co. Durham
TIGHE, Rev. W., Cefn Eithen, Lower Cwmtwrch, Swansea Valley, S. Wales
WHITE, C. J., Mayville, Main Street, Chapelizod, Dublin
WILCOCK, G. D. N., c/o Ministry of Agriculture, Accra, Gold Coast, B.W.A.
YOUNG, Captain G. D. N., Melbourne Court, 17 Fitzjohn's Avenue, N.W.3

CHANGES OF ADDRESS, &c.

BAILEY, C. W., 61 Cottesloe Gardens, Cottesloe, W. Australia
BIGGS, Mrs. Gayfayre, Florida Road, Ferring, nr. Worthing, Sussex
BUCK, H., c/o R. Ninnis, Tolmennor, Breage, Heston, Cornwall
*DAVIDSON, G. L., 31 South Canterbury Road, Canterbury, Kent
DHARMADHIKARI, H. K., Village Karpa, P.O. Multai, Dist. Betul, Madhya Pradesh, India
*DOBNEY, G. H., M.B., B.S., 94 Longland Drive, Totteridge, N.20
*DUNDAS, Mrs. R. W., 66 Erta Canina, Florence, Italy
HOOPER, Mrs. WILFRID (formerly Mrs. T. Nightingale), M.B.O.U., 31 West Street, Reigate, Surrey
DE KLERK, F., 142 Charles Street, Somerset East, Cape Province, S.A.
KNIGHT, Mrs., Beacon Hill, Manor Road, Penn, Bucks
LEATHER, Miss H., M.R.I., P.H.H., Leasowe, Salisbury Road, Horsham, Sussex
LAMB, W. H., High Winds, Stow-on-the-Wold, Gloster
O'DONNELL, F. J., 33 Pembroke Road, Clifton, Bristol
*OVERACKER, R. H., P.O. Box 269, 412 Olive Street, Huntington Beach, California, U.S.A.
*PRYCE, H. E., 2A Livingstone Avenue, Second Street, Salisbury, S. Rhodesia
REILLY, Rev. A., The Square, Clonakilty, Co. Cork
TOMLINSON, H., M.B., Ch.B., M.R.C.S., L.R.C.P., 36 Mount Ephraim Road, S.W.16
WALKER, Mrs., Little Polwhele, Truro, Cornwall
*WEATHERBY, Miss K. E., Bastide Blanche, Ramatuelle, Var, France
*WILLIAMS, G. A., 43 Leinster Gardens, Bayswater, W.2
WOOD, Squadron Sgt. Major G. S., Eastern Com. Signal Regt., Maresfield Camp, nr. Uckfield, Sussex
*WILSON, C. D., P.O. Box 17, Pretoria, Transvaal

RESIGNED

CAMGRON-JAMES, L.
CHILD, Lady
GALLOWAY, N.
GLANDFIELD, Rev. G.
HUMPHRYS, Captain H. E.
SALES, G.S J.
SMITHERS, Mrs. OTWAY

OBITUARY

BARRETT, Miss E.
HALL, W.
WILSON, Lieut.-Colonel E. BERNARD, D.S.O.

ANNUAL GENERAL MEETING, 1950

The sixteenth Annual General Meeting was held at the rooms of the Medical Society of London, 11 Chandos Street, at 3 p.m. on Wednesday, October 18th. Twenty-two members were present, Colonel Bell being in the chair.

1. The Chairman suggested that the Minutes of the previous Annual General Meeting should be taken as read, a full report having been published in the *Journal* for December, 1949. This was agreed to.

2. Colonel Bell then read the following Report :—

Ladies and Gentlemen,

The list of members published in the September *Journal* shows a slight increase in numbers as compared with the corresponding list for 1949. The total number of members shown in the *Journal* for last September is 535, which includes 146 life members, as against 510 and 138 ; whilst 179 or almost exactly one-third of our members are resident overseas.

We have to deplore the loss by death of two members of our Council during the past year, namely, Captain W. H. Trinder and Mr. W. E. H. Humphrys.

It is hardly necessary for me to emphasise the value of the services which Captain Trinder rendered to our Cause. Before the Society was formed at all, he and a few other dowsers carried out some elementary experiments at my suggestion. He was one of those who helped to get the Society started and proved a tower of strength. He frequently assisted Mr. Maby in his valuable experiments and was always ready to give talks or lectures at local gatherings. Above all he was himself a water diviner of the first rank and many examples of his skill exist throughout the countryside. He has left a permanent record in the shape of his little book called *Dowsing*, which has served as a useful guide to many English-speaking dowsers throughout the world.

As a final contribution to the cause of dowsing he has left a legacy of £1,000 to the Society to be devoted to Research.

Mr. Humphrys joined the Society some years after its foundation, but I recognised at once that his scientific training and outlook would be of great assistance in our discussions. An appreciative obituary notice by Mr. Wethered appeared in our *Journal* for June last.

We also have to regret the passing of two other old members, Dr. Hector Munro and Dr. E. T. Jensen, both of whom made use of radiesthetic methods for diagnosis and treatment, with considerable success.

Dr. Munro was one of the original members of the Society and in its early days he generously allowed his consulting room at

12 Park Crescent to be used for our little meetings. He was at one time a member of our Council.

Another loss to the Cause occurred through the death of Dr. Ernest Martin. He was not a member of this Society, but was, I believe, one of the first qualified practitioners in this country to make use of radiesthetic methods, and as far back as 1912 employed Baines' method to measure the human aura galvanometrically. He was President of the Medical Society for the Study of Radiesthesia and probably did more than any other towards the recognition of radiesthetic methods here at home.

The *Journal* has been produced on the same lines as hitherto and each number now averages about 60 pages. It is not always possible to devide the articles under three headings, physical dowsing, medical dowsing and mental dowsing, and in the last *Journal* the Editor did not attempt to do so. It is a question, one might almost say, a matter of opinion, whether, for example, "tracing the lost" can be safely relegated to either the physical or mental, so perhaps it is as well not to allot such articles to any specific heading.

As Editor I would like to thank all those who have been kind enough to contribute articles and to review books and journals. I would in particular like to thank Mr. Wethered for his well written reviews, or rather précis, of articles in *Radiesthésie pour Tous*, many of which are of practical interest to our members.

It is not always easy to find copy to fill a journal, and I repeat my plea of former years that any member who has anything of interest to record regarding dowsing in any of its varied aspects should send a report or article to the Editor.

The Society has, as you know, already published two books, namely, *Dowsing*, by Captain Trinder, and *Radiations*, by Mr. Franklin. Another book entitled *A Radiesthetic Approach to Health and Homoeopathy*, by Mr. V. D. Wethered, is now being printed and will, I hope, be ready early in the New Year.

A notable addition to the literature on Dowsing was published in England during the past year, namely, *Psychical Physics*, by the geologist Dr. S. W. Tromp. A critical appreciation of this book by Mr. J. C. Maby appeared in the *Journal* for March last. The experiments described therein provide for all unprejudiced readers convincing testimony to the reality of the physical effects produced on the dowser's neuro-muscular system by electro-magnetic influences, and I advise all serious students of the subject to study it. There are two copies of the book in our library.

The library, by the way, is not used to the extent one might expect. During the past year 54 volumes were asked for. I would remind home members that suggestions for additions to the library are always welcome.

A notable addition to the library is the *Bibliography of the Divining Rod, 1100-1900 A.D.*, which Dr. Westlake has kindly loaned to the Society. It was compiled by his father, the late Mr. Ernest Westlake, F.G.S., F.R.A.I. It is in manuscript and it must represent many years of painstaking research. It was probably from this that the bibliography at the end of *The Divining Rod*, by Sir William Barrett and Theodore Besterman, was extracted. It can be seen in the office at York House by appointment.

During the past year, that is to say, between July 1st, 1949, and June 30th, 1950, seven lectures have been delivered in these rooms to our members, namely, "Acoustic Therapy," by Mr. G. W. de la Warr, "Dowsing and Psychical Research," by Mr. A. Noel Spong, "Wanderings in the Radiesthetic Field," by Dr. A. T. Westlake, "The Search for Water. Where are We?" by Colonel K. W. Merrylees, "The Neutralisation of Harmful Rays," by Mr. A. D. Manning, "Tests," by Major C. A. Pogson, and "Physics and the Extra Senses," by Dr. R. C. Thornton. We owe our thanks to those members and to Dr. Thornton for so kindly giving us the benefit of their knowledge and experienc.

I would like to add that the Secretary will always be glad to receive suggestions for lectures—not necessarily by members of the Society.

By kind invitation of the Psychosomatic Research Association a few of our members have attended their interesting lectures during the past year. The objects of that Society coincide to a certain extent with our own, and it is hoped that in future some of their lectures will be printed in *Radio-Perception*.

The annual Reception this year was held on April 19th, and was attended by about 50 members and their friends. Thanks to the demonstrations arranged by Mrs. de la Warr and Mr. Macbeth this social function was, I think, more interesting than usual. A short account was published in the June number of *Radio-Perception*.

The Summer Meeting was held during the current year on August 12th in a field near Northwood. In contrast to the meeting in 1949, it was of a severely practical kind, but in spite of the careful arrangements Colonel Merrylees had kindly made the results were disappointing. A report on the Meeting will appear in the next *Journal*.

In response to the notice in the *Journal* for March, 1949, offering a prize for the best paper on "Dowsing as applied to Agriculture," only two essays were received. That by Baron Dorlodot, who has for many years been using radiesthetic methods on his property in Belgium was much the better, but was not considered

to be sufficiently practical to answer the demands of English readers, so no prize was awarded. His essay was translated and published in the *Journal* for June.

A very important—one might almost say portentous—event last year was the holding of a Scientific and Technical Congress of Radionics and Radiesthesia on May 16th, 17th and 18th. The Committee was composed of members of the Psychosomatic Research Association, the Radionic Association and our Society under the able chairmanship of Mr. J. Cecil Maby. A distinguished soldier, Brigadier General Sir Ormonde de l'Epée Winter, acted as President. Circulars about the Congress were sent to members of the three Societies and to many individuals at home and abroad who were likely to be interested, and there was a numerous and attentive audience at all the lectures and demonstrations.

An account of the Proceedings is now being printed and will be published as soon as possible. Subscribers to the Congress will receive a free copy and, if required, two extra copies at cost price. The price of copies to non-subscribers will probably be 12s. 6d.

I cannot say much about the activities of our members in the various branches of dowsing during the past year because I receive little information on the subject. The notice which appeared in the *Journal* for June and September in which dowsers for water were asked to send in forecasts of their locations, has met with very poor response and the object of the notice is not likely to be fulfilled. Mr. Maby and Colonel Merrylees have, I know, been largely successful in their locations, and it is to be hoped that it will be possible to publish records of the results of our leading dowsers from time to time.

Before I close I want to bring to your notice a scheme for conducting a farm on radiesthetic lines which has been proposed by one of our members, Miss Douglas, the owner of a property of about 75 acres in Bedfordshire called Toddington Park.

She was running the farm successfully from 1931 to 1940 when it was requisitioned by the Bedfordshire W.A.E.C. It has now been derequisitioned, and she is prepared to hand it over on very generous terms to some organisation, to be conducted as a training college for students and a research centre for the application of radiesthetic methods to agriculture and veterinary treatment.

One proposal is that a limited company should be formed to finance the project with a capital of £15,000, paying a low fixed rate of interest and devoting all further profits to extending its activities.

I am not suggesting that this Society should finance or assist in financing this scheme—I think this is a matter for individuals—

THE BRITISH SOCIETY OF DOWSERS

Income and Expenditure Account for One Year to 30th June, 1950

EXPENDITURE.

1949		£	s.	d.
£				
41	Postage and Cheque Books	37	1	4
9	Printing and Stationery	36	3	6
118	Office Expenses	119	2	0
59	Meetings	61	0	7
130	Printing of Journal	230	3	0
6	Badges Purchased		—	
10	Various	4	2	6
124	"Radiations"	5	10	6
—	Grants and Donations	5	12	5
—	Library Purchases	1	9	9
—	Corporation Duty		13	8
		500	19	3
58	**Balance** being excess of Income over Expenditure for the Year	110	7	11
£555		£611	7	2

INCOME

1949		£	s.	d.	£	s.	d.
£							
349	Annual Subscriptions ..	..	..	..	351	13	10
94	Life Subscriptions	..	..	..	83	18	6
21	Entrance Fees	..	..	..	35	3	0
23	Meetings	..	..	..	22	9	3
23	Sales of Journals	..	..	..	39	5	8
1	Sales of Badges	..	..	..	1	1	3
9	Donations	..	..	..	8	6	1
1	Various	..	..	..	6	14	11
27	Sales of "Radiations" ..	..	..	..	55	1	9
	Interest on Defence Bonds	6	0	0			
	Ditto on Post Office Savings Bank Deposit	7	18	0			
		13	18	0			
7	*Less* tax at 9s. in the £ ..	6	5	1			
					7	12	11
£555					£611	7	2

Balance Sheet as at 30th June, 1950

1949								1949							
£		£	s.	d.	£	s.	d.	£		£	s.	d.	£	s.	d.
	Surplus Account														
	Balance as at 30th June, 1949	794	4	9				306	**Balance at Bank**	..	..		286	14	9
	Add Excess of Income of over Expenditure for the								**Cash on Deposit**						
794	year to 30th June, 1950	110	7	11				316	Post Office Savings Bank Balance as at 30th June, 1949	316	5	0			
					904	12	8		*Add* Further Deposit ..	100	0	0			
	Creditors								Interest	7	18	0			
28	Inland Revenue for Tax on Untaxed Income				6	5	1						424	3	0
									Investment						
								200	3 per cent. Defence Bonds				200	0	0
£822					£910	17	9	£822					£910	7	9

We have prepared the above Balance Sheet and the Income and Expenditure Account attached from the Books and Vouchers of the Society and certify the same to be in accordance therewith.

Salisbury House, London Wall,
London, E.C.2.
16*th August*, 1950.

JAMES, EDWARDS & CO.,
Chartered Accountants.

but the proposal is one which should appeal to many of our members.

3. The Treasurer then produced the accounts for the past year, a copy of which had been sent to every member. He pointed out that the expenditure included the cost of printing five *Journals* as against three in the previous year and that a further sum of £100 had been paid into the reserve at the Post Office Savings Bank.

It was proposed by Mr. Eeman and seconded by Mrs. Barraclough that the accounts should be passed, and this was carried.

4. The Chairman pointed out that a vacancy for a Vice-President had been caused by the death of Captain Trinder, and vacancies for two members of the Council by the death of Mr. Humphrys and the resignation of Mr. Franklin who had thought it better to leave the Council as he was never able to attend meetings.

Under Rule 26 the vacancy for Vice-President had been filled by Mr. Underwood, leaving three vacancies on the Council, which had been filled by Colonel Merrylees, Dr. Westlake and Mr. Latham.

Under Rule 26 these gentlemen were eligible for re-election at this Meeting.

Mr. Macbeth proposed their re-election, which was seconded by Mr. Wethered and passed.

The Chairman pointed out that under Rule 20 Mr. Somers Taylor was due to retire from the office of Treasurer and Secretary, having served as such for three years, and referred to the excellent and gratuitous service he had rendered.

Mr. Somers Taylor had signified his willingness to continue in office.

His re-election was proposed by Mrs. Millen and seconded by Admiral Sir Sydney Fremantle, and this was carried.

5. The Chairman informed the meeting that Messrs. James, Edwards and Co., the Auditors, were prepared to continue their service during the current year at a cost of not more than seven guineas.

Under Rule 30 Major Pogson proposed and Colonel Merrylees seconded that Messrs. James, Edwards and Co. should be elected as Auditor for the current year. This was carried.

6. A vote of thanks to Colonel Bell was proposed by Admiral Sir Sydney Fremantle and seconded by Mr. Wethered, who made appreciative mention of the services of Mr. Somers Taylor.

A discussion on various subjects took place, including the poor response to the request in the *Journal* for information regarding locations made by dowsers.

Mr. Latham stated that Lord Kemsley was sympathetic towards dowsing and would probably give room for articles on the subject in his papers.

THE SUMMER MEETING

It was decided to give this Meeting less of a social and more of a practical character than that at Hatfield last year where the esthetic surroundings were not conducive to an interest in the practical demonstration of our Art.

After careful reconnaissance kindly undertaken by Colonel Merrylees, a meeting place was arranged in a field about a mile west of Northwood, where the Colne Valley Water Company had a pumping station. This field, situated at the end of Jackets Lane (a turning off the west side of Ducks Hill Road), contained several objectives open to discovery by dowsers for water, namely : An adit 320 feet deep to the sumph from which water was being pumped at the rate of 15,000 gallons per hour.

A fissure running through the sumph.

Two underground flows at a depth of about 400ft. below level of wellhead located by Colonel Merrylees.

The surface of the field slopes gently from south to north. The geological formation consists of London Clay about 50 feet deep at the sumph, overlying the Upper Chalk which dips south-east towards the London Basin. A consideration of the geological conditions would have indicated the probable direction of flow of subsoil water.

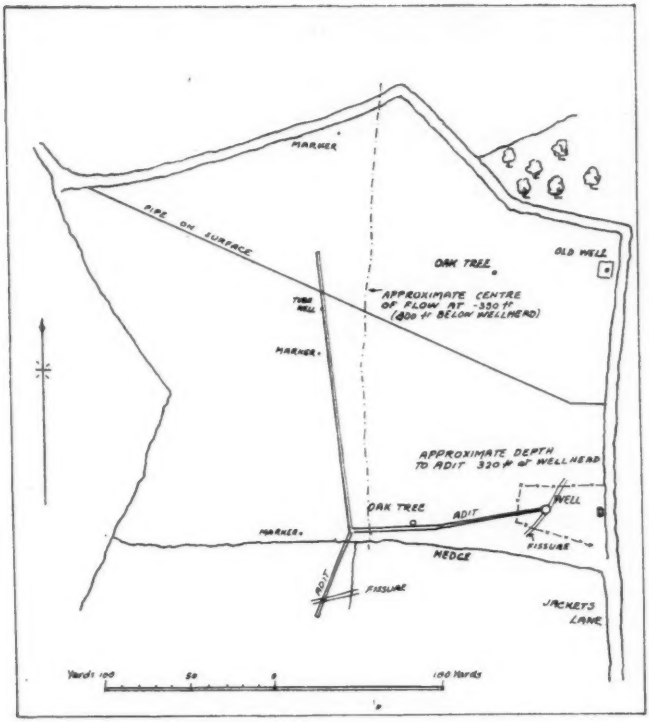
Members who wished to dowse over the area were given a plan of the field at a scale of 36 inches to the mile.

The meeting started about 11 a.m. and continued till the late afternoon. Unfortunately it had not been possible to arrange tea for members and their friends.

A note by Colonel Merrylees on the practical side of the meeting follows :—

In order to give a practical interest to this year's meeting, a test, which should have been well within the capabilities of any competent dowser, was arranged. In this, the Colne Valley Water Supply Company co-operated most helpfully by, firstly, permitting the Society to use a field near Northwood in which one of their wells is sited, and, secondly, by supplying at 5 p.m., details of the well and the known details of the subsoil when the dowsers had had the day in which to carry out their surveys without anyone present knowing up to then the full answer.

The field was divided into two areas, one for a detailed survey, and the remainder for those who wished to experiment over a deep flow or have demonstrations. This latter area remained deserted for the greater part of the day.



SCENE OF THE MEETING

The area for survey lay to the east of the three markers

The results of the test were extremely disappointing. Of the 40 or so who attended, eleven took a copy of the outline map on which to record their findings. None of these recorded indications over the long adit (carrying 15,000 g.p.h. to the well pump), or the fissure (struck when the well was being dug), though two gave indications of fissure flow (this last, of course, not proved but agreed by several dowsers present). In fact, had this been a survey for the development of subsoil water on this site, only one or two reports would have been any value at all to a client. It was noted that, with two or three exceptions only, little or no method or plan appeared to be used for the survey. Dowsers wandered haphazardly about the field, none used the geological map supplied, few used marking pegs (though one

umbrella was most conspicuous !) and many seemed inclined to prefer to gather in groups and discuss, presumably, past successes. An old disused shallow well in the valley bottom appeared to be a great attraction but had little connection with the real problem of the supply to the Company's well, which was being pumped throughout the day.

It is a great pity that more of the better known and widely experienced dowsers did not attend. One experienced dowser arrived very late, but, as he stated and also demonstrated on the ground, he is unable to investigate, or even locate, adits and the experiment was not suited to his ability.

Others, who were clearly sensitive, were confused by the pattern of the side band indications and failed to sort out these into any useful results. These sensitives only require instruction, practice and patience, to be of real use. Regrettably there were also present some who appeared so subject to autosuggestion and wishful thinking that it does not require their useless survey maps to class them among those who do the dowser's profession incalculable harm.

Only two of the seven map-dowsing maps issued were returned before the meeting and the only one correct item was the alignment of the adit near the well, without details of depth or quantity. Other adits shown on this map are known not to exist, but other recorded items such as " static water " cannot be verified in a chalk subsoil, probably full of water.

Since the area chosen for this test was, it is considered, as simple as any dowser is ever likely to meet, it cannot be denied that on the results obtained, the great majority of those present should on no account attempt to site wells where expenditure by others is involved.

This would seem to bring up the problem of " minimum competence," below which no dowser should be classed as more than a student, but it is indisputable that without this minimum, much more harm than good will be done to dowsing generally.

An adit in chalk offers one of the few subsoil flows of which depth and quantity are accurately known, and as there are many sites, where, as at Northwood, such suitable test conditions exist, tests of " minimum competence " should be possible within reach of all who are sufficiently sure of themselves to offer themselves for trial. Any dowser who can obtain correct results consistently over flows which can be checked as to position, depth and quantity could do much to disperse that mistrust of dowsers which from Saturday's results would appear to be fully justified.

RATIONAL AND HUMAN RADIESTHESIA

BY PIERRE BÉASSE

Director of the International School of Radiesthesia at Nice

What is Radiesthesia? Etymologically the word means: "sensitiveness to radiations." These radiations are detected by our nervous system and by our brain and are amplified by an artificial amplifier, namely the rod or pendulum.

There are two methods of detection, the physical and the mental (or psychic).

(1) The mental or radio-psychic (subjective) method, centuries old, is based on the interrogation of the subconscious and on various personal and prearranged mental conceptions and therefore excludes all sensory perception of radiations. This method necessitates long and intensive training in order to free the mind of all pre-conceived ideas. It implies peculiar qualities which are confined to a few rare and privileged people such as Abbé Mermet and M. Christophe, whose successes were numerous and undeniable.

The mental method is subject to no laws or restrictions and gives access into psychic realms where the objective physical method cannot penetrate.

It needs a certain gift which is, in fact, super-sensitiveness, either natural or developed by intensive training of the subconscious, the "second self," or *anima* which is within us.

(2) The physical or radio-physical (objective) method is equally an art based on the exact sciences. Certain scientific radiesthetists, namely, the Engineers Mager, Voillaume, Correnson and Béasse have, since 1932, tried to advance this method. They connected the laws of Radiesthesia with those of Physics and Physiology as now recognised. Without appealing to the subconscious, the operator senses the electromagnetic radiations given off by matter, justifying the term Radiesthesia or "Sensitiveness to Radiations."

By the physical method radiesthesia ceases to be the prerogative of a privileged minority but lies within the grasp of ninety-five per cent. of the human race. It can be learnt, like Physics and Chemistry. Unlike the mental method, its laws are the same for every operator; exact regulation of the suspending thread, serial numbers, ray of union, particular numbers, fundamental ray, &c. It does not exclude the automatic intervention of the brain, a physical organ, by using the "mental ray" and "mental selection," thereby neutralising the multiple radiations of the environment.

By the study and practice of this Physical Method excellent operators are made, capable of solving all problems save those requiring clairvoyance and mediumistic powers. Those skilled in this method are becoming very numerous, for it requires no "gift" involving the subconscious.

However, it is by the use of both methods, the one subjective and the other objective, that the operator obtains the best results, giving prominence to one or the other according to his composition. There are numerous operators who, starting with radio-physical methods, have gradually developed their sensitiveness to the extent of discovering an aptitude for the psychical method. They then obtain exact information on any question, whether it be of a material or intellectual nature. In their case the physical response or the nervous reaction amplified by the rod or pendulum is, after proper training, supplemented by mental orientation and convention when the wish arises to obtain any precise result.

In practice, these two methods are intermingled or alternate, according to whether the problems the operator has to solve are more or less physical (water, medicine, chemistry, agriculture, &c.), or more or less mental (phrenology, psycho-radiesthesia, distant prospection, grapho-radiesthesia, abstract qualities, &c.). Consequently, the fundamental object of radiesthetic training, if it is to be rational and complete, should be physical, physiological and psychic. The training then becomes rational and human.

In reality, the practice of radiesthesia consists of three contributory elements:

Physical.—The action on the brain of physical radiation emitted by matter and the action of the mental ray from the brain towards matter, or again the radiations produced by the changes of the electromagnetic field. These phenomena are invariable.

Physiological.—The impression experienced by the nervous system of the operator under the foregoing physical effects.

Mental.—The faculty of selecting mentally the required radiation from amongst others—that is, the intervention of varying degrees of intuition.

Thus, Radiesthesia is a single act in whatever way it be conducted. It would be wrong to try to establish the existence of two kinds, one physical and the other mental. It is merely a question of two methods. It would be a mistake to deny the existence of one method because the operator favours the other. The adoption of one or the other depends on the operator's disposition, his degree of sensitiveness, on naturally psychic powers which vary greatly from one person to another. For Radiesthesia must be regarded as an inherent faculty of the human being, and study of the physical method should precede that of the mental, which is less accessible to the world in general.

This statement is the result of observations on more than thirty thousand students, many of whom have become competent professionals, and this is why it is desirable that every beginner should first study the physical method. After long practice of

this method he may perhaps develop his sensitiveness to the point of attempting the delicate operation of the mental or psychic method.

In these conditions Radiesthesia should take rank in all countries amongst the official sciences. They would thus bring into the fold all those scientific investigators who have deduced from ancient lore the elements of an art founded on exact science.

THOUGHTS ON TIME

BY W. E. BENHAM, D.Sc., (HON). F.INST.P., F.R.S.A.

"Thou by thy dial's shady stealth may'st know
Time's thievish progress to eternity."

Shakespeare, Sonnet No. LXXVII.

Mr. Eugene S. Virpsha has rendered signal service in his pamphlet of some 16 pp. supported by numerous references and quotations from a wide range of sources entitled *The Time Factor*. Issued by Markham House Press at two shillings, this production represents the outcome of considerable study, and serves as a useful guide to those unaware of the prodigious literature throughout man's intellectual history on this most fundamental, this most ultimate of questions. More distinction might well have been drawn between references to Time in works dealing with other issues and actual worksdevoted primarily to the discussion of Time. Perhaps the most critical and well-informed example of the latter is J. A. Gunn's *The Problem of Time* (Geo. Allen and Unwin), but even after imbibing from this fount of wisdom the reader may be excused a feeling that he is coming out, more or less, "by the same door as in I went." The position in regard to metaphysical Time is well summed up in the words of St. Augustine, "If nobody asks me, I know, but if I wish to explain Time in answer to a questioner, I know not." We scarcely, to-day, know how to utter a word of sense about Time, over and beyond what has been uttered in mediæval days. In the view of the great Plotinus, Time is an ultimate datum of existence, for the soul is unable to create Time by acting purposively. Time is given, and is the medium in which we realise our purposive actions.

That Time originated with the Sensible Universe, in Plotinus' view, is entirely in accordance with the views of the famous astronomer, E. A. Milne, whose recent death deprives Cosmogony of one of its most forward looking pioneers. As the reviewer understands Milne, Time-experiences alone are fundamental. We begin with temporal experiences, construct distance measures out of them, and combine the two, if we wish, into space-time (*Relativity, Gravitation and World Structure*, pp 18, 19. Milne's approach leads to "Kinematical Relativity," of which it can be definitely stated, despite the author's modest disclaimers, that light is thrown upon the laws of nature in general and the laws of motion in particular, which are by no means provided for on Einsteinean

views. But, despite Milne's rejection of curved space-time and other simplifications, his work is none too easy to read.

Besides an absence of reference to Milne's works one notices in Mr. Virpsha's pamphlet no mention of the books of J. W. Dunne on various aspects of Time. This may be because Gunn disposes of Dunne, somewhat summarily, in the work above referred to. The main objection to Dunne's serial time seems to the reviewer to lie in failure to notice that an infinite regress can actually be avoided by recourse to two time co-ordinates only. Space forbids further discussion of this point here.

In one of his paragraphs Mr. Virpsha discusses the idea of regarding the Time factor as extending along a spiral, and makes mention of the spiral pattern attained by nebulæ. This is a somewhat undue spatialisation of Time, which, as Milne strongly contends, is on a different footing from space. The spiral idea may have originated with Ouspensky, in his work *a New Model of the Universe* of which the only part the reviewer was able to appreciate was the suggestion (on quite inadequate grounds, but possibly correct) that there is a distinct time co-ordinate to be *associated with* each of the three (Euclidean) space dimensions. But such "dimensions" are not "things in themselves." Instead of three space co-ordinates, a radius vector and two angles may be chosen. In vector language all the reference to co-ordinate axes is entirely out of view. Now, to say that there are three co-ordinates of Time is merely another way of saying that Time is a vector. Since, by Fourier's theorem Time is, in the most beautiful relationship ever presented to physical science, in the widest possible sense *the reciprocal of a frequency*, then, insofar as in vector analysis the angular frequency of rotation, say, of a particle of fluid, is represented by a vector normal to the plane of rotation, so also must we associate vector properties with the reciprocal of the frequency, that is, with the "Time Period of Rotation." The reviewer believes this view of Time may be the one Ouspensky was endeavouring to express. Of course, the concept is revolutionary, in that if both Time and displacement are now to be regarded as vectors, linear velocity could lose its vector character, but the future may show how far this Neo-Fourier view of the situation may dominate the concepts of dynamics.

It may be as well to emphasise that such vectorial properties as may be attributable to Time *as Time period* are not necessary to Time *as experienced*, which brings us up against the paradox of Time as percept differing from Time as concept. The Time period is invariably associated with the rotation of something in space, whether visible, as in whirlpools, or invisible, as in electromagnetic disturbances of the æther, a medium in which the reviewer is still inclined to believe despite difficulties too well known to mention. For, as Mr. Virpsha rightly says,

quoting Greenwood, "Nature is far more complicated than geometry and mathematics."

In regard to the present day fashion to regard the æther as a myth, Mr. Virpsha, though not touching on this particular topic, places us all in his debt by bringing to light an important saying of Soloviev, "If a newly-proclaimed truth has no deep foundation in the past and if we begin our daily work with pure destruction of what has gone before, then our new truth will soon be cast aside and our work of to-day will be destroyed to-morrow. By casting away the past, and by renouncing solidarity with our ancestors, so we give the right of those coming after us to sever their ties with us, and to disavow our deeds. The progress of humanity then loses its ground and life becomes aimless and futile." The reviewer does not feel competent to discuss section 7 of the pamphlet, "Vision into the Future," except to concur in the quotation from Churchill—"The Veils of the Future are lifted one by one and mortals must act from day to day." There seems to be some evidence from Dunne (*Experiment with Time*), which ought not to be treated too cavalierly, that sometimes future events are dreamed about in the minutest detail. And this may not fit in too badly with the rejection of determinacy by a considerable school of thought (see Max Born's article on another point of view by Albert Einstein) in *Science News*, No. 17 (Penguin Books).

INFILTRATION TO UNDERGROUND OF RAINWATER

Reproduced from Nature *with the permission of The Editors and of the author, Dr. V. L. Bosazza*

The manner in which rainwater reaching the earth's surface is distributed has rarely been determined in detail, and then only in very local conditions. Its importance in modern agriculture[1] has not been appreciated fully, for extensive determinations have not been made. Lysimeter experiments are not, of course, recent innovations; but how far their results can the extrapolated to a catchment area is a very difficult matter to determine. Run-off and rainfall data have reached a high degree of accuracy,[2] and in most cases the evaporation from free water surfaces is also available; but how to relate these and deduce the infiltration to underground is not a simple matter. Naturally a great deal will depend upon the type of vegetation, and for cultivated areas this is going to vary according to the crop.[3]

South Africa is dependent upon underground water, and the infiltration to underground is of very great importance. For certain reasons, lysimeter experiments, which may be useful for agricultural experiments, may be dangerous to apply in wider hydrological problems. Theron's[4] experiments near Pretoria,

for example, have limited application over South Africa. For example, our rainfall is highest in the mountainous areas and our mountain slopes are mainly noted for the waste rock that fill the foothills.[5] Run-off is nil in these structures, and water rapidly moves through the open texture of the boulder gravels and soon is safe from evaporation losses. It is probably in such areas that more than 50 per cent. of the total precipitation goes to underground, whereas in other areas the order is that indicated by Theron, say 3 per cent.

The late Dr. A. L. du Toit[6] approached the problem in another manner. On the eastern portion of the Witwatersrand, the terrain is flat and consists of gently undulating dolomitic limestones with a variable covering of clays and sandstones of the Karroo System. The older rocks of the Witwatersrand System are also relatively flat-lying and have been extensively mined, so that the water pumped from these mined areas represents a very high proportion of the underground water of the area. Du Toit worked out that the water pumped out amounts to about 3 per cent. of the total rainfall of the area. Here is a case of a gigantic lysimeter, and the method could be applied more extensively. For example, the western extension of the Witwatersrand lends itself to the same experiment. Now the dolomite covers a very great area in South Africa and, owing to the fact that the rock develops very large and extensive solution channels and underground caves,[7] lysimeter experiments of the order of a third of an acre or less (unless they take into account such efficient media for rapidly leading water underground) would give figures that are far too low for the infiltration to the dolomitic limestones.

The South African landscape from the Western Province through the Northern Cape, Free State and the Transvaal into Southern Rhodesia is characterized by closed drainage areas or pans. These pans collect appreciable volumes of water and should act as efficient structures for forcing water underground. However, the fact that most of them contain greater quantities of salts in solution than rivers in the same areas suggests that underground drainage is not a rapid matter, and it is possible that from salinity studies the infiltration to underground could be evaluated. The pans occur over many geological formations and all over South Africa, and it means that results would be of wide application.

Studies of several dams show that the infiltration to underground varies a great deal. In some cases there is an undoubted flow to voids in rocks deeper down ; but in others there is a gain from a source which can only be underground water issuing from springs. Boreholes drilled along the edges of dams, although well below the water-level and only a short distance (less than 1,000 feet), gave such small yields (less than 20 gallons per hour)

that lateral flow from the dam could not be great. Many of our dams, for example, Haartebeestpoort Dam, are built in fault lines,[8] so that ample and permanent supplies of underground water occur on the downstream side.

It appears that, if the elements of the hydrological balance are to be determined in South Africa, the mines of the eastern and western Witwatersrand, coal mines of the Witbank area and the dams and pans of South Africa can give a great quantity of data on underground infiltration, and that such data may be far more generally applicable than lysimeter experiments—of course, only so far as the infiltration to underground is concerned. It is an unfortunate circumstance that in the case of the Orange Free State gold mines the presence in certain areas of artesian water in the sediments of the Ventersdorp System (water derived probably from the Basutoland Highlands) will prevent the pumpage from those mines being useful in the evaluation of underground recharge in that area.

The Okavango Delta in the northern portion of Bechuanaland could be used to great advantage.[9] Presenting probably a very close approach to a free water surface, evaporimeters plus flow measurements of this river could give a valuable guide to the amounts of water that are fed to underground, and hence of the underground waters of the southern Kalahari and parts of South-West Africa. This would be invaluable in the development of Southern Bechuanaland.

With anxiety being felt of the lasting qualities of our underground waters, it is remarkable that, in the low rainfall areas of the Karroo, boreholes and springs of great yield are found, for example, the flowing springs of Cradock and Aliwal North. West of De Aar in areas of rainfall less than 12 inches, fresh and saline boreholes of 2,000-8,000 gallons per hour occur within close proximity. In these areas surface limestone and extensive sand stretches facilitate infiltration to underground, and hence a high proportion of the rainfall is made available for sub-surface flow. While in high-rainfall areas probably only 3 per cent. of the total precipitation (say, more than 24 inches per annum) goes to underground, in these areas 60 per cent. of the 12 inches precipitation may rapidly filter to the subterranean storage and flow.

N.B.—Dr. Bosazza wishes it to be made clear that he does not support dowsing or radiesthesia in any form as an approach to underground water location.

1 *Nature*, 164, 805 (1949).
2 Foster, E. E., *Rainfall and Run-off* (Macmillan, 1948).
3 Many papers in *Trans. Amer. Geophys. Union*, 1942 onwards.
4 *Sci. Bull. Dep. Agric. S. Africa*, No. 288.
5 King, L. C., *Proc. Geol. Soc. S. Africa*, 50, 23 (1948).
6 Geol. Surv. S. Africa, Explanation Sheet No. 52 (Johannesburg).
7 King, L. C., *South African Scenery* (Oliver and Boyd, 1942).
8 du Toit, A. L., *Geology of South Africa* (Oliver and Boyd, 1939).
9 *Geogr. J.*, 113, 62 (1949).

PART ONE

THE RADIESTHETIC RESONATOR

BY VICTOR DUMERT, A.M.I.R.E.

It is now recognised that the movements of the dowsing pendulum result from neuro-muscular impulses caused by the dowsing field. If we consider the physical fact that a pendulum can oscillate in a regular manner only when the applied impulses are in-phase and equal to the natural period of the pendulum, then the muscular impulses must be of a comparatively low frequency. The well-known formula, $T = 2\pi\sqrt{\frac{l}{g}}$ gives us all the information required in this respect. We have T=time in seconds of one complete oscillation, l=length in feet of pendulum suspension, and g is the constant of gravity (g=32·2 for London). For all practical purposes a dowsing pendulum is not longer than about two feet and not shorter than about three and one half inches, but may have any length between those two limits. Thus the impulses delivered to such pendulums to retain them in oscillation must lie within the range of 1·6 to ·5 per second. How do dowsing fields produce such low frequency muscular movements? If the muscle fibres were acted upon directly by the dowsing influence, then a muscle removed from a body and arranged in a suitable frame to which is attached a pendulum would function in the presence of a dowsing field.

This sort of experiment has always given negative results. The very nature of motor-fibre nerve reaction rules out such a possibility; for it has been shown beyond doubt by workers in medical research that there is a constant speed and frequency, characteristic of the various sets of nerve fibres, at which impulses traverse them regardless of the kind of stimulus they receive to set the nerve in action. Even when we cause our movements to be slow by act of will, the thought stimuli produces the chain of nerve impulses at their characteristic speeds. It is an automatic triggering-off and "mixing" of these fast impulses which results in the willed control of speed of movement.

The reason advanced for a muscle not responding to dowsing influences when removed from the body is that the dowsing influences operate initially at a much higher level of the nervous system. This assumption may be correct, but it does not adequately explain why a pendulum with wide limits of length oscillates in a given "field." It would be understandable if a pendulum of a certain length always oscillated in a given field to the exclusion of pendulums of other lengths. On the theory of the pendulum it would at first sight appear as if the dowsing field had the mysterious property of actuating muscles from a

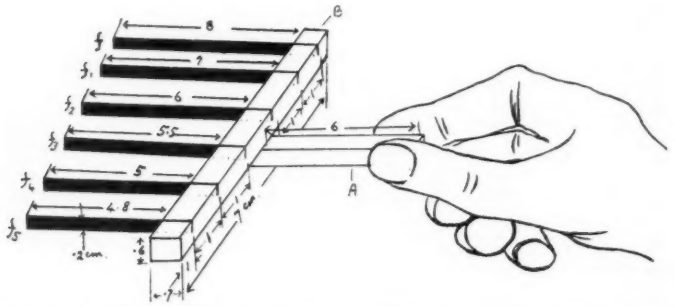
higher level in the nervous system in such a way as to suit the pendulum in use at the time. This, of course, is a ridiculous assumption, and would eventually lead us back to the old hypothesis of the pendulum being directly influenced.

We cannot explain the fact by assuming that every possible impulse is set in motion simultaneously by the dowsing influence so that whatever length of pendulum is used the necessary impulse is available to retain oscillation, because it is a physical fact that motion cannot occur in two directions at the same instant. And anyone who has made a close study of the anatomy of the nervous system could not possibly imagine that a dowsing field can co-ordinate the nerve impulses to the degree required for a series of slow muscle impulses ranging from, say, two impulses per second to one impulse every two seconds.

These and similar facts have always been the weak links in dowsing theory. It is quite obvious that the mechanical reaction of the human machine to dowsing influences is not nearly so simple as many people try to believe.

In the first place I want to show that there are much higher frequency impulses set up in the neuro-muscular fibres than those indicated by the pendulum. The instrument about to be described furnishes proof of their existence. In its present form it is purely a laboratory tool. But, for the benefit of those readers who are interested in practical experimental work constructional details are included for an instrument especially suitable for demonstrating these higher frequency neuro-muscular vibrations due to dowsing influences. It is an extremely interstring piece of apparatus, and well worth the trouble of making.

Essentially it consists of a number of metal strips f, f^1, f^2, f^3, f^4 and f^5 (see figure). These strips are made of hard brass foil .01 cm. thick. They are, in fact, mechanical resonators with definite



The Radiesthetic Resonator. All dimensions are in centimeters. The width of f, f_1, f_2, etc. is 0.2 cm., and their thickness .01 cm. The grip, A, has similar cross section to that of B.

natural frequencies. These resonators are fitted rigidly to the bar B, by means of tight slots cut in the latter. The bar is a piece of hard wood or brass. The grip, A, is a piece of wood or brass firmly glued or soldered at the centre of B. It is important to make the resonators conform to the dimensions shown in the figure.

To demonstrate the instrument hold the grip, A, as shown, and bring it into a dowsing field. It will be observed that the resonators immediately begin to vibrate in a regular and ordered manner. The number of resonators operating at one time and the extent of their amplitude of vibration is related to the type of field being explored. The correlation of all the factors involved with this instrument is not nearly completed to date, but the important fact is that the existence of the higher frequency impulses is proved beyond doubt.

The technically minded will grasp the full significance of the above, and realise the value of this instrument as a means of investigating a great range of dowsing phenomena beyond the reach of the pendulum. It will be seen at once that we can construct instruments with resonators to cover any band of frequencies, and their periods of vibration can be related mathematically as desired. We can employ the A.P. or G.P. series which will be valuable for research work, i.e., we can arrange the frequencies to be in the order, f, f+n, f+2n . . . f+xn where f is the lowest frequency, n the constant difference, and x a number whose value will be one less than the number of resonators employed ; or we can use the relationship f, fr, fr^2 . . . fr^x where r is the constant ratio between the frequencies. The resonators may be tuned to close frequency limits by suitable arrangement for length adjustment ; and calibration to a high degree of accuracy can be obtained by stroboscopic methods.

Is it possible to account for the low frequency impulses communicated to a pendulum now that we know these higher frequency vibrations are present ? I think this is possible. It is shown in Physics that two frequencies of different periods may combine to form a pulsating or " beat " frequency, and that this " beat " frequency has a period equal to the difference of the frequencies producing it. For instance, an oscillation of 23 cycles per sec. can beat with one of 25 cycles per sec. to give a pulsating motion of 25−23=2 cycles per sec. Obviously there are a great many possible frequencies that could produce a " beat " of 2 cycles. Indeed, every beat frequency has an infinite number of possible components. Another property of periodic motion which must not be overlooked in dealing with this problem is that two frequencies of the same period can produce a resultant frequency whose amplitude is different from that of either component. The well-known mathematical statement of this fact is :

$$A \sin(\omega t+\theta)+b \sin(\omega t+\varphi)=A \sin(\omega t+E)$$

From this it will be seen that the phase angles θ and φ may be such that the resultant amplitude is zero. In other words, although a dowsing reaction is actually occurring in the neuro-muscular system no indication of it can be recorded by a pendulum, or by the " rod " for that matter.

It is evident, then, that the radiesthetic resonator will open up whole new avenues of research; for this instrument will respond to the component frequencies although their resultant, as far as a pendulum is concerned, is zero. And since the resonator will show the component frequencies present under " beat " conditions, it will be invaluable for discriminating between fields whose real differences cannot possibly be revealed with the pendulum in virtue of its motion being the resultant of two or more motions, any two of which may produce a similar " beat."

So far we have not mentioned the gyratory motions of the dowsing pendulum. The remarks made at the beginning of this article apply also to this effect. Can we explain gyratory motion on our " resultant motion theory " ? If the radiesthetic resonator in the figure is held at one end of the bar, B, instead of by the grip, A, so that the resonators lie in the same horizontal plane as in the first experiment, the bar will now be at right angles to its former position. It will be found that when the instrument is in this position, the resonators again operate in an ordered manner in the presence of a dowsing field. By the laws of resonance the strips f, f^1 and f^2, &c., cannot sustain their oscillations unless the impulses delivered to them are at the same frequency as their natural frequency, and these impulses, in the case of our instrument, must be delivered parallel to the plane of vibrations of the resonators, otherwise they do not function. Thus we must conclude from these experiments that there are at least two degrees of freedom in the horizontal plane. (It may be shown that there are three distinct degrees of freedom which may be designated x, y and z respectively in accordance with the rules of Cartesian geometry). It is a well-known fact that two oscillatory motions at right angles to each other, and in the same plane, can combine to give a resultant motion. A point subjected to such a resultant motion is capable of describing an infinity of different orbits dependent for their shape on the phase relationship and frequencies of the component motions. The famous Lissajours figures of Physics show the phenomena very beautifully.

However, the frequencies of the component motions would have to be slow to give the slow resultant necessary at the pendulum. But by an extension of the " beat theory " we can show that the components of a gyratory motion may themselves be the resultant " beats " of two pairs of higher frequencies. This would result in the slow gyratory motion such as a dowsing pendulum exhibits.

To develop fully the above theory would require a volume. By its aid a number of dowsing anomalies may be disposed of. The possibility of developing the radiesthetic resonator into an instrument for exacting work in the field of diagnosis is far from remote; for it is a more versatile instrument than the pendulum or "rod," and responds to a much greater range of neuro-muscular reactions. One may be able to recognise a symphony over the telephone, but its beauty and harmony would be lost. On the other hand a good wireless set will reproduce the effect in full. By anology the telephone becomes the pendulum, and the wireless set the resonator, whilst the symphony is equivalent to the dowsing field with all its vast range of variations.

Note on Mr. Dumert's Paper

Mr. Dumert kindly asks that I should comment on his paper. This I do with pleasure, especially as he has, I know, spent a considerable amount of time and effort on what may be broadly termed dowsing experiments; and, reading a little between the lines, I fancy that we should be in general agreement on several fundamental points of theory. But he does not, in this paper, enter into sufficient detail for one either to criticise or appraise his views for certain.

Mr. Dumert's multiple (mechanical) resonator—I do not feel too happy about calling it a "*radiesthetic* resonator"—seems to be a particularly interesting and, if his observations are repeatable, significant device, on the conception of which he is to be congratulated. I look forward eagerly to following up this clue. All one can say for the moment is that it appears to respond to relatively low audio-frequency vibrations, relayed through the operator's hand and arm, not to electromagnetic waves. But I suppose that lower harmonics of super-sonic mechanical vibrations, the importance of which in radiesthesia is claimed by some modern workers (e.g., Mr. G. de la Warr and his associates), might energise one or more of the resonators of Dumert's apparatus.

In the second place, I am glad to see that Mr. Dumert favours the idea of lower *beat* frequencies being set up between two mutually interfering h.f. wave trains. Others have, in recent years, had the same idea, though with regard to an etheric wave radiation instead of sound waves; and my own recent work with the so-called "radio-electrometer" (see papers in the *B.S.D.J.* and my paper in the forthcoming *Proceedings* of the London Radionic Congress) suggests the same thing, though definitely employing *Hertzian* radiations. For I have repeatedly observed that no deflection of the electrometer results from a single "pure note" signal, however intense, whether instrumentally, geophysically or physiologically derived, unless and

until there is superimposed upon it a second *beating* signal. Then mechanical motion results, despite complete inaudibility and lack of any normally detectable mechanical vibrations; though supersonic frequencies remain a possibility, despite the clear fact that only pure, unmodulated radio signals were employed to create the effects in this case.

Putting two and two together (I mean Mr. Dumert's new tests with a mechanical resonator, de la Warr's supersonic hypothesis, Dr. M. Ash's interesting mercury-pool experiments and my own Hertzian and electrometric observations, backed up by some remarkable—unpublished—experiments by A. H. Reeves), it would seem to be possible, if not indeed probable, that beating *electromagnetic* waves of Hertzian class, at least, may automatically induce *mechanical* vibrations in resonant objects by means of some as yet unappreciated kind of energy conversion. And this may be at the molecular or even atomic level. If so, then a link between two very diverse sets of claims and data might be established, and the odd and rather disturbing fact that radially dispersed "fundamental rays" can definitely be detected, in correct frequency sequence, in the cases of both coloured light rays and Hertzian rays (see my papers in *B.S.D.J.* VIII, 64, and in *Radiesthesia* III), might be related to that of the *ordinary* fundamental rays. For the latter can be shown to be related to molecular weight, atomic weight and atomic number of the materials analysed, whereas *light* rays result from high-frequency thermal agitation of atoms and molecules (with, of course, characteristic line spectra, according to the elements involved), and we have already hypothecated that *Hertzian* frequency electromagnetic oscillations appear to induce molecular and atomic (? even sub-atomic) oscillations and "secondary emission," of a sort, from the constituent particles of the conductors being energised. If so, then there is no good reason why the delicate radiesthetic technique, with the specialised phenomena of "fundamental ray analysis," should not manage to detect very high frequency *mechanical* vibrations resulting therefrom.

No doubt this is all very crudely and inaccurately expressed; but I feel instinctively that something of the kind (i.e., a curious and hitherto unrecognized form of energy conversion, too subtle for normal physical detection by classical methods) may well be taking place, to be picked up "radiesthetically" by skilled dowsers or, instrumentally, by a few specialised modern devices. In any case, it would appear from much painstaking modern work in Radionics, &c., that *shock excitation of matter*, whether achieved electronically, thermally, by particle, gamma or cosmic ray bombardment, or even by purely mechanical means (within the sonic and/or super-sonic range), causes all matter to re-radiate a subtle form of energy covering a wide frequency range, that can be detected by dowsing and radionic techniques. These

radiations we may term provisionally and non-commitally "fundamental rays" for temporary convenience. And they appear to be strangely affected by magnetic fields—even quite weak ones; though I cannot believe, on the basis of my own work with Franklin, Trinder, Eeman, Reeves and others that magnetism *per se* is primarily involved. Nor (as H. M. Budgett also maintained) is gravitation; though one must await with interest the appearance and scientific approval of Fr. A. Glazewski's recent papers on what he terms "the gravitational wave"—a conception that may turn out to be allied to those of Prof. A. See and Albert Einstein.

In all this, however, pure empiricists, such as I happen to be, must eventually be ruled by the mathematical physicists, such as T. B. Franklin and Dr. R. Thornton—who will, I hope, apply themselves vigorously to all these ideas. For many of the observational data now appear to be reasonably established and to exhibit considerable coherence and practical utility of a somewhat shaky kind. What is next needed as Mr. Dumert and others surmise, is one or more basic *theoretical* generalisations, to integrate and clarify the major issue.

I further agree with Mr. Dumert's idea of "two degrees of freedom" in the horizontal plane; i.e., oscillations occurring in two directions at once, perpendicular to each other. Both rod and pendulum suggest this, though the field may be stronger in one sense than in the other. And, on the basis of dowsing and electromagnetic data, Franklin and I suggested elliptical polarisation of the rays relative to (say) a stream's R-bands in *The Physics of the Divining Rod* (1939).

As for what Mr. Dumert says about pendulum dowsing reactions, I would like to comment as follows, though I could not quite follow one section of his remarks:—

1. That it may well be the intermittent, pulsatory variations of local field strength (confirmed by many instrumental tests of mine) that cause the neuro-muscular impulses which oscillate or gyrate the dowser's pendulum, according to whether the field is plane polarised or elliptically polarised, with "two degrees of freedom in the horizontal plane." But the human cardiac pulse may also start the pendulum going for some subjects, and 72/min. "wobbles" of the new radio-electrometer (see above) are sometimes observable, that seem to suggest this factor; though the main "radionic" pulses (that affect such an instrument or else the ionisation counter or other forms of sensitive electrometer) have an average periodicity of about 15 secs. (about 4/min.). And the latter appear to refer to either some "cosmic pulse" or to radio beat effects associated with large moving masses such as storm clouds or even nearby aircraft, &c.

2. The blood pulse plus the polarisation or locally effective dowsing fields and/or rays, acting inductively on differently

orientated muscle groups, and thus affecting their tonus, might together give both motion and direction to a freely suspended pendulum bob. Where strong fields and intensity variations are involved, as over underground streams, cables, &c., in stormy weather, the whole body may be caused to sway one way or another irregularly for a sensitive subject, especially if in a state of stress or emotion. On a smaller scale, the hand and forearm are similarly affected.

3. Pendulum suspension length may not be sharply critical, except relative to the blood pulse effect, since the above-mentioned tremors are by no means quite regular ; though one might expect certain particular suspension lengths to give maximal responses in relation to lower harmonics of specific frequencies of some hypothetical energising radiation, as French workers maintain. Personally, I cannot assure myself of any such specific effects, but I do not take very kindly to the pendulum ! *Rod* reactions and those of simple myometers seem to be better fitted to measuring (roughly) the energising field strength. They are also more easily interpreted physiologically than those of a pendulum, less subject to autosuggestion, and better for field work.

4. It appears that muscles (e.g., a frog's) will react to electromagnetic fields and rays of the supposed types in a standard form of myometer, though a pendulum would be far less suitable.

5. The rate of transmission of a nervous impulse along the nerve fibres may be approx. constant, but the number of such intermittent impulses per second (determining degree of contraction of attached muscles) may be extremely variable.

J. Cecil Maby.

Postcript

In a letter to me Mr. Dumert says :—

" In general terminology one would have to use the word audio-frequencies for the range of frequencies mentioned in my article, but in actual fact this range lies below the threshold of audibility ; i.e., 0-35 cycles/sec. approx. I think this particular range is going to be important in subsequent investigations, and it would be a good idea to find a name for it. . . . I would suggest *dermo-frequencies* as a possible designation, since contact with the skin makes their presence felt. . . ."

Mr. Dumert has very kindly lent me one of his multiple resonators, which I have carefully tested over a period of several hours, applying both physiological tremors (held in the hand) and various non-vital mechanical vibrations from 25 per sec. up to about 5,000 per sec. (normal musical range for audible sounds). I have also tried holding the instrument in hand while crossing various strong dowsing reaction bands (R-bands), while a strongly inductive electromagnetic field was switched on and off (alternating, 50 cycles/sec.), and while the associated muscles were energised

by weak Hertzian signals between 100 Kcs. and 45 Mcs. frequency —which give various well marked normal dowsing and radiesthetic effects, as judged by other means.

I find, as a result, that, though the *human pulse* causes continuous vibration of all the 10 prongs (lengths 5-8 cms.) in varying degrees, with well-marked cyclical resonance in the three longest ones as the natural frequencies of the reeds periodically get in and out of phase, harmonically, with the pulse tremors, there yet appears to be no other specific resonance in relation to different sources of dowsing excitation. And no critical frequencies could be observed for certain in the Hertzian range, that would increase the general vibration of the reeds as a whole or any one of them in particular, acting on a dowser carrying the resonator.

The only thing that appeared, rather dubiously, was that when the muscles of the hand and arm holding the instrument were strongly tensed there was a little more activation of the shorter (high frequency) reeds. I also thought, on occasion, that those reeds (the longer ones especially) which normally vibrated most strongly under blood pulse action, seemed to increase their amplitude of vibration a little in a strong dowsing field. But this effect was rather uncertain and far less easy to observe than ordinary rod and pendulum reactions, &c.

Purely mechanical excitation of the instrument by itself, by vibrations of suitable resonant frequencies, naturally gave some clear responses, but only to very strong, low frequency sources of energisation: nothing near the sensitivity of an ordinary tuning fork or a taut wire, say.

It is, therefore, very hard to believe that response would be obtained by such an instrument, either by direct or physiological resonance to the extremely subtle radiesthetic stimuli (also generally supposed to be of very high frequencies and non-mechanical nature) normally dealt with by dowsers, &c. Indeed, such an instrument appears to be far too insensitive to stimuli of the order of frequency and amplitude that concern radiesthesia, while being far too sensitive to very low frequency, gross mechanical vibrations, such as the blood pulse or muscular tremors or the action of walking, breathing and speaking are bound to induce; nor, I fear, is it at all sharply selective to even these stimuli, in terms of resonant frequency.

I am very sorry to have to conclude in this way, but it is, I think, impossible to do otherwise; though my original remarks (above) still stand, excepting what was said as to very high frequency vibrations (e.g., supersonics) possibly affecting such a resonator.—J.C.M.

SIGNIFICANT DEVELOPMENTS IN THE PROBLEM OF "EARTH-RAYS"

Lecture and Demonstration given in London on 13th September, 1950, by J. H. Esvelt.

The following article records the most important developments in the scientific research of so-called "earth rays" by prominent scientists of Holland, Switzerland and Germany.

The effect of "earth-ray" zones on human health is accepted by these authorities, especially if persons sleep or work in these for long periods.

An independent check apparatus for determining "earth-ray" zones is described (the Gerameter). Information is given about a recent cancer congress, where also the biological influence of "earth-rays" was discussed. The newest development of shielding apparatus against "earth-rays" is shown.

I am very glad to be able to tell you about some new developments in connection with the so-called "earth-ray" problem. In my talk of last year at Dr. Jensen's house (of whose recent death I learnt with deep regret), I had already told you about our experience in Holland. I had to tell you then, that we could not yet prove the existence of "earth-rays" by any independent instrument. To-day I can tell you that this is now possible. In the first place I wish to refer to the theories and experiments of the Dutch Professor Tromp.

Dutch Experiences

I quote the following passages from Prof. Tromp's book *Psychical Physics:*

"Each living organism is developing electrical fields: the so-called ORGANIC FIELD, which is continuously subjected to two external fields; one created by the electrical, magnetical and electromagnetical fields below the surface of the earth, the so-called GEOPHYSICAL FIELD, the other field by the sphere above the living organism, the so-called METEOROLOGICAL FIELD. On purely theoretical grounds one can therefore expect certain subtle physiological processes in the human body as a result of the complex interaction of the three above mentioned fields.

"One of the most fascinating phenomena which belong to this category is the divining-rod phenonenon, better known under the name DOWSING or RHABDOMANCY, in practice known by the oldest human civilisations but up to a recent date generally attributed to imagination or auto-suggestion. For many years I had the same opinion about dowsing until I succeeded in arranging a number of experiments which convinced me of the reality of these phenomena and their value for geophysics and medical sciences.

"One of the most difficult problems in the study of dowsing phenomena is the preparation of experiments which can prove the reality of the above mentioned influences, because it is evident that the same movements of the rod can be easily produced by intentional contraction of the arm muscles.

"From September, 1946, till June, 1947, a number of experiments were carried out by me in the physical and physiological laboratories at Leiden (Holland) and later in the laboratory of Technical Physics at Delft University. The experiments consisted of three main groups:—

1. Experiments with artificial magnetic fields: These experiments were carried out because during geophysical work I had noticed that dowsing reactions seem to coincide with magnetometer maps.
2. Experiments with a string galvanometer of Einthoven: This method was chosen in order to study the fluctuations of the electric potentiality on the skin of the dowsers with a continuous self-registering millivoltmeter.
3. Electrostatic experiments: These experiments were carried out to study the influence of electrostatic induction on dowsers.

"We have seen that the dowsing zone represents a zone of disturbance in external electrical, magnetical or electromagnetical fields. We know from a great number of experiments carried out by different scientists that both electric, magnetic and electromagnetic fields have biological effects either after a short period if the fields are very strong, or after many years if the fields are very weak (the biological law of accumulating stimuli, well known in botany in the phenomena of tropism). It is therefore quite conceivable, from a theoretical point of view, that a crossing point of two dowsing zones has certain biological effects on a living organism spending a considerable part of its life at this crossing point. The biological effect can be either favourable or unfavourable, depending on the limit of biological stimulation of a living organism. Stimulation below this limit may be favourable, whereas above it, the effect could be harmful. The biological effect of a dowsing zone, if existing, probably *does not* consist of *creating a certain disease* (e.g., tuberculosis or cancer). This undermining influence of a dowsing zone *only accelerates the process.*

"It is evident that the scientific proof of these different assumptions requires many years of research by a team composed of at least one geologist and a medical doctor. Many striking examples concerning the influence of dowsing zones have been reported which seem to justify the expenses of such a research the results of which, if confirming our suppositions, may have a far-reaching influence on future town-planning and medical science."

The experiments of Prof. Tromp convinced him of the real existence of earth-ray zones. In addition I should like to state that the Research Organisation proposed by him is now being set up. It may interest you further that in Holland dowsers have investigated already more than 14,000 houses, including some of the most prominent buildings. Many of them have been protected against earth-rays with suitable shielding apparatus, to which I will refer later on.

A Scientific Check Instrument

At my talk in Dr. Jensen's house I learned that the German dowser Mr. Dannert, of Hagen in Westphalia, had given a lecture in London in 1938 for members of the British Society of Dowsers. I contacted Mr. Dannert in February of this year and carried out some tests with him. One of the most important developments is that we are now able to check the results found with the rod by means of a geophysical instrument, called "Gerameter."

The working of the gerameter consists of the accurate and always repeatable registration of local disturbances of the magnetic field of the earth by means of an extremely sensitive geological compass made by Messrs. Breithaupt & Sohn, of Kassel; the sensitivity of this compass can be regulated. Exact physical experiments have shown, in particular those by the scientists Dr. phil. e. med. Jos. Wüst (University of Munich) and Oberstudienrat Dr. Aug. Wendler (Erlangen), that the magnetic field of the earth is disturbed by pulsations of ions and electrons which occur above anomalies of the soil (e.g., underground water currents—the "water streams" of the dowsers—crevices, &c.). If this be so, it must be possible to record these disturbances by means of a sensitive and accurate magnetometer. The gerameter is such a magnetometer, designed after an idea of the earth-ray investigator Heinrich Dauner, architect (Salzburg), developed further by Dr. Wetzel, Dr. Wüst and others. On account of its practical use during more than 15 years, this instrument can be considered to be trustworthy. The subjective indications of dowsers caused by physiological stimuli can be tested independently by this instrument in a faultless way.

According to the observations and opinions of the scientific earth-ray investigators, which can hardly be denied nowadays, the pulsating emanations of electrons occurring above certain anomalies of the soil, often have a biological influence and not only cause the movement of the dowsing rod, but must also be considered as the activator of disturbances of the health of all kinds of living beings. If one can succeed in eliminating these emanations, then the movement of the dowsing rod must cease and also the measurable changes in the magnetic field of the earth must disappear, or respectively be compensated within a certain radius.

The sensitivity of the compass is increased by putting a bar magnet into a container. This container is placed on the side of an aluminium box on which the compass can be moved, also this container can be moved vertically and horizontally. It is clear that if the bar magnet is put into the container, the needle of the compass deviates. By experiments it has been found that, to obtain the best instrument readings the most sensitive deviation of the compass needle is 110 degrees. By moving the compass and/or the container this point can be found. When checking the points found with the dowsing rod, we proceed as follows: The dowsing points are marked. On a neutral spot the gerameter is adjusted in such a way that if the bar magnet is placed into the container the deviation of the needle of the compass is 110 degrees. Now we measure every two feet, in the direction of the points found with the dowsing rod. We find several deviations, which are noted. The values may be, e.g., 110 degrees, 108, 112, 116, &c. These values are entered in a diagram and now we see that the tops of the curves correspond with the points found with dowsing rod.

A German Theory

Every investigation in a new scientific field is characterised by a continual change and further development of working hypotheses and theoretical views under the influence of new observations. If this be true for all recognised branches of science, this must also apply to the problem of the earth-rays, which for the present has not yet generally been recognised. This investigation also follows exact methods.

In Germany, since the war, the following theory has been set up:

The fact that the so-called (electric) earth current is running through the earth-crust, is known. Generally this earth current has a fixed course, but particularly it moves in direction and intensity towards the geological anomalies of the soil. As a result good conductors (e.g., ores) show a concentration of the current, while bad conductors (e.g., hollow spaces) only admit a very small current on those spots.

There is a very tense alternating working between this earth current and the electric conditions of the atmosphere. Between the earth and the air there is a permanent exchange of charge. This so-called "air electric vertical current" has an extraordinarily small intensity, but can be definitely shown. The transport of the current is performed by positive and negative particles. In accordance with the negative earth charge, the particles emanating therefrom have a negative sign. We have a continuous current.

The intensity of the air-electric vertical current strongly depends on the local conditions of the upper layer of the earth crust, that

is to say of the local conductivity of the soil and the connecting intensity of the earth current.

The earth-ray zones on which the dowsing rod reacts, are therefore zones or places, where the intensity of the exchange of charge between the soil and the air is different from the surroundings. However, this vertical electric current is always so very small that we must not imagine it to be like a constantly flowing current, but more like something pulsating. You could almost compare it with water, running from a tap nearly turned off, so that the water does not run out like a constantly flowing current, but as a periodical dripping. Here we have a pulsating continuous current, creating a pulsating electric and magnetic field.

On account of the latest investigations, the assumption sometimes made that the earth rays are an electro-magnetic radiation coming from the glowing heat centre of the earth or from the universe, must be rejected.

Shielding Apparatus

Through this theory also a new light is thrown on certain types of shielding apparatus, the working of which until now was physiologically incomprehensible. It would go too far to expound this subject now, but I would like to remark that certain shielding apparatus is based on the property (most often not understood by the inventors) that masses of metal isolated from the earth always accommodate themselves to the changes of the air potential. This has the effect of a buffer, that is to say the masses of metal diminish the potential difference between the earth-ray zone and the neutral surroundings, eventually in such a way that the dowser cannot perceive any potential difference. When the potential changes are very strong and quick this system may work too slowly and the potential differences are no longer sufficiently eliminated. The dowser then says that the shielding "leaks."

From this viewpoint a new light is also thrown on the use of coils and condensers in shielding apparatus. They can be considered equal to masses of metal of high electric capacity, and they only work as long as there is a potential difference between the apparatus and the surrounding air. Such as apparatus is not reacting to electro-magnetic influences, but to pulsating continuous currents.

Swiss Experiments and Conclusions

Many years ago investigators in Germany succeeded in artificially generating earth-ray fields and, by changing the intensity and frequency of oscillations, in imitating the various effects of earth-rays.

In 1935-36 tests made at the Kaiser Wilhelm Institute at Dortmund with artificial rays gave the same results as the tests performed by Dr. Jenny, of Aarau (Switzerland), who worked with

a " natural " earth-ray zone and who concluded that :

1. The growth of certain plants is influenced by earth rays.
2. The white mouse generally avoids the earth-ray zone.
3. The tar carcinoma of the white mouse shows a quicker development and becomes aggravated in earth-ray zones.
4. When testing animals, the effect of earth-rays could be neutralized by certain shielding devices.

With reference to this conclusion Dr. Jenny writes in 1936 : " How the effect of these earth rays must be viewed we cannot say. Also we would not yet draw any conclusions from these experiments about a connection between earth-rays and human diseases, especially human cancer. Further investigations must give elucidation."

Since then in Switzerland this new branch of science has been further investigated by Prof. Dr. W. van Gonzenbach, director of the Institute for Hygiene of Zürich Technical University, and has been widely discussed in publications of Swiss specialists on geology, soil mechanics, meteorology, medicine and architecture. From these we see that earth-rays have been accepted there on empirical grounds.

Earth-rays and Cancer

In connection with the above remark of Dr. Jenny, it is of importance to know that at Bad Kreuznach (Germany) on December 3rd, 1949, a congress was held at the Institute for the Investigation of Diseases of the Blood, Tumours and Infections. This institute, under the leadership of Dr. von Brehmer, is subsidized by the French Government. At this congress the problem of cancer was discussed and now it is noteworthy that a lecture was given by an engineer on the physical aspect of " Geophysical stimuli and their connection with diseases of the blood and tumours," while the lecture about the biological part was given by Mr. Dannert, mentioned above. This is of very great importance ! At an official cancer congress a dowser was given the opportunity to lecture about the biological aspects of earth-rays. This may be considered as a proof that abroad this problem is taken seriously.

Further it appears from a report of this congress that it is claimed that a virus, the Siphonospora Polymorpha von Brehmer, is the cause of cancer, and that this virus becomes virulent when the pH value (i.e., the concentration of the ions of oxygen) of the blood increases above 7.56. Reiter ascertained that if the blood is exposed to a certain radiation, the pH value increases, while Wetschky says : " The geophysical stimuli in the form of low frequency pulsating exchange currents between the earth and the atmosphere, influence the pH value of the blood in the same way as described by Reiter and so creates the conditions for the development of the Siphonospora rodlets."

At this moment experiments are being made at Bad Kreuznach with artificial earth-rays. Cultures of the Siphonospora virus are irradiated with them.

Further it is claimed in this report that extraordinarily good results have been obtained with a serum, "Toxinal," in connection with the healing of cancer, while with measurements of the pH value of the blood in the vein a means has been found to take prophylactic measures in a very early stage against this most feared disease.

A new method for determining the biological effect

In previous years, in order to establish the biological effect of earth-ray zones on the human body, I used a copper rod to determine the intensity of the earth-rays. By this intensity I could tell roughly if these earth-ray zones were dangerous. Now we are able to obtain a much more differentiated test about the biological effects by using a special rod in which "test-ampoules" can be clipped. Experience from extensive tests has shown the connection between the particular ampoule and corresponding ailments. Accordingly, if a certain test ampoule reacts, we are able to tell which diseases are most likely to be activated or aggravated by this particular zone, depending on a personal predisposition.

The "Phylax" Shielding Apparatus

Now I have come to the point of telling you about a check test by the gerameter of the shielding apparatus type Phylax. As I have said already, if one can succeed in eliminating the earth emanations, then not only the movement of the dowsing rod must cease, but also the measurable changes in the magnetic field of the earth must disappear, or respectively be compensated within a certain radius of the shielding apparatus. An official test of the Phylax apparatus was made by the Geophysical Laboratory "Terrella" at Munich in October, 1947. The report concludes:—

"The above mentioned test of the Phylax apparatus regarding its physical working as a shielding apparatus resulted in the positive ascertainment that the presumed disturbances of the magnetic field of the earth caused by underground water streams, were essentially compensated, when the apparatus had been switched on. The time lag between the moment that the apparatus was switched on and the moment that the shielding effect became noticeable was very small; it was hardly more than 60 seconds. From the fact that the apparatus was placed at a distance of 10 metres from the point of measurement, it must be concluded that this shielding apparatus has a considerable radius of action. During the first measurement the apparatus was placed in the same spot, only switched off, so that accordingly the switch contact can be considered to be positively active.

Therefore the Phylax apparatus can be considered to be a physically active shielding apparatus."

Continental scientists in the earth-ray field

As for the biological effects of earth-rays, they can hardly be denied, though one cannot say that these are already scientifically proved. However, there are so many medical doctors, biologists and scientists who have experimented in this field of research and who have published their results, that the question can be answered positively, whether earth-rays have a biological effect. They can now even be checked by scientific instruments. I refer to the publications of the English scientist Maby's *Physics of the Divining Rod*; and of the Dutchman Prof. Tromp's *Psychical Physics*; to the Swiss Dr. Jenny and Prof. Dr. Gaumann; and to the German scientists, Dr. Hager, Dr. Mannlicher, Prof. Dr. Koegel, Prof. Berg, Dr. Lautenschlager, Dr. Rambeau, Dr. Macht, Dr. Schreiber, Ing. Lehmann, Dr. Wendler, Dr. Wüst, Reiter and others.

These indications are so many that one is justified in suggesting that also in this country practical investigations and scientific experiments should be made systematically in this field.

I saw Mr. Dannert again at the end of July and he told me then that he had investigated the village of Weilburg (Germany). His test showed 230 houses to be "cancer-dangerous." Actually the medical record showed that in 229 of the houses cancer had occurred.* It would appear to be of the utmost importance to make similar investigations also in this country.

Concluding Remarks

In short I would like to say this: That the so-called "earth-rays" have an injurious influence on the health of human beings, animals and plants, has been recognised as a fact. Especially in connection with cancer, it is of real importance to investigate this matter further. In addition every medical practitioner will have had patients who for unaccountable reasons have not reacted to their treatment as they could reasonably have expected. Earth-ray investigation has shown in many such cases that this was caused by the patient's home being affected by earth-ray zones. It would thus appear in the interest of physician and patient, that in similar cases the patient's house should be checked and compensated for earth-rays. Just as the effect of a fracture is investigated for the physician by an X-ray specialist, similarly some physicians already obtain the assistance of an earth-ray investigator, so as to secure for their medical treatment the best possible success, uninfluenced by these injurious local disturbances.

(For eventual queries in connection with the above problems kindly refer to J. H. Esvelt, correspondence address: 16 Arundel Avenue, Morden, Surrey).

* Similar results were obtained at tests made in a northern province of Holland.

THE PHYSICS OF EARTH RAYS

BY R. D. WETSCHKY

Translated from Zeitschrift für Geosophie, *July-September, 1949*

I have set myself the task of writing something on the physics of so-called Earth Rays and will try in a short sketch to give an account of the methods of measurement hitherto applied and their results, as well as conclusions on the nature of these rays. For simplicity's sake I will adhere to the usual "earth rays" for the agent which causes the rod's movements, without in the meantime expressing any more precise opinion on their character. Although the problem of the rod is very ancient, the first investigations in this connection of sufficient objectivity to be of any value, date from the first 20 years of the present century.

The fundamental fact that the rod reacts only in response to the bodily reactions of the radiesthetist was not established until modern times. The energy of the earth rays is assuredly too small to exert a direct motive force on the rod. Otherwise the problem would be an easy one to solve, for the human being could be replaced by an apparatus for holding the rod, which would then react of itself.

If research regarding the rod and earth rays is to be regarded as truly scientific, the methods of exact science must be employed and must provide unequivocal and reproducible results. Progress will only be made when those earth rays can be defined in terms of physics, but for physical definition measurements are necessary.

Now what has been discovered by means of physical apparatus at places where the dowser gets reactions, that is to say over "zones of influence" (*Reizstreifen*)?

Let us first examine the measurements connected with the static field above the earth's surface, beginning with electrostatic and continuing with magnetic measurements (by static field is meant the uniform and not the rapidly changing field such as is caused by a direct as opposed to an alternating current).

To make the experiments more easily understood I will say something about electrical conditions in the atmosphere. Between the earth and the air there is a continuous exchange of charges carried out by free ions or electrons. Normally the earth is negatively polarised relative to the air so that according to the fall of potential negative ions travel *from* the earth and positive *to* the earth. Near the surface of the earth the potential difference normally amounts to 100 volts per metre of elevation.

If one imagines that all points of equal potential are connected to one another there will be equipotential surfaces, those of the air's electric field lying parallel to the surface of the earth and parallel to one another when the surface is level, failing any disturbing influences. Deformations are caused by irregularities

in the earth's surface or by the presence of good conductors in or on the surface of the earth.

The first to make careful measurements on this head—in connection with lightning striking high tension cables—was Engineer Dr. Lehmann, of Zwickau. He had appropriate areas examined by an experienced dowser and bores were then made on some of the spots indicated. Water was actually found at such places, but bores made to the same depths at points nearby yielded no water. Measurements of atmospheric electricity were then taken on these zones and at the same time on neutral ground alongside them as follows:

(1) Measurements of potential difference taken with two similar electrometers in conjunction with two radioactive *Sonden** which make the air conductive in their immediate neighbourhood and therefore provide an excellent contact. It appeared that above the zones of influence the values of fall of potential were less than on neutral ground. Lines of equipotential on the zones of influence were further apart than on neutral ground.

(2) Measurements of the conductivity of the air at the same places taken with two Gerdien conductivity apparatus in conjunction with two electrometers. It appeared that air above the zones of influence showed considerably higher conductivity than air over neutral ground.

These results are in good agreement. Conductivity of the air is increased and in consequence surfaces of equipotential become further apart.

I must also mention the measurements of Reiter, of Munich, who worked on the same lines as Dr. Lehmann but used a *Flammensonde*† instead of the radioactive *Sonde* and, instead of an electrometer a graduated reinforcer to enable measurements to be made without tension.‡

Reiter arrived at the same results as Dr. Lehmann. He proved that above the zones of influence produced by underground currents which he measured, the field strength is increased and the difference of potential lowered. To show this he registered point by point a series of curves above the zones of influence.

Now let us pass on to magnetic measurements. At any point on the earth's surface the magnetic field of the earth can be

* A *Sonde* in the form of a physical instrument is a fine platinum wire placed in the path of an electric discharge to measure the potential difference between the *Sonde* and the other electrodes.

† A *Flammensonde* is a platinum wire heated by an alcohol flame in order to produce greater sensitiveness and to secure protection against humidity of the air.

‡ An electrical measuring apparatus without tension, i.e., without an electric charge, such as Dr. Wüst's electron counter, which is not charged electrically but works without tension.

observed, for instance by means of a compass, which aligns itself north and south according to the direction of the lines of force of the earth's magnetic field. An apparatus formerly used for measuring the earth's magnetic field is the so-called double compass. Dr. Wendler, of Erlangen, has produced an improved pattern of this instrument and used it for measurements on zones of influence.

The apparatus consists of two similar magnetised needles fixed one above the other at a certain distance apart. As similar poles mutually repel, the strength of the needles produces an angular displacement between them which depends not only on the strength of the needles but also on the external magnetic field and thus enables the latter to be measured.

With this apparatus precise measurements were made over zones of influence which agree with results obtained from electrostatic measurements, namely an increase in the value of the magnetic field strength above zones of influence as compared with neutral ground. A very interesting observation of Dr. Wendler is that values can fall below the normal value on neutral ground, for example, in measurements over cavities. I will mention the significance of this later.

Another measuring instrument of magnetic type is the so-called Gerameter, invented by Dauner, of Salzburg, and improved by Dr. Wetzler working in collaboration with the Engineers Oberneder and Ruff; its modern purely magnetic form is due to Dr. Wüst, of Munich.

In this instrument a single very sensitive magnetised needle is deflected from its normal position by a permanent magnet when placed at a certain position. This angle of deflection depends, as in the case of the double compass, on the strength of both magnets and also on the external field, and admits of the latter being measured.

This apparatus has been graduated by Dr. Wüst for quantitative measurements as well, and at a convenient setting has a maximum sensitiveness of $1^\circ = 27$ gamma, corresponding to nearly $\frac{1}{750}$th of the strength of the earth's magnetic field, which here is .205 Gauss. With a magnifying glass one-tenth of a degree can easily be read. Dr. Wüst has himself recorded and published many curves made with this instrument. As was to be expected these curves correspond to those made with the double compass.

Before giving closer examination to those results I must say something further about the technique of the experiments; the effects measured are of an order of magnitude lying at the limit of what can generally be appreciated. Unless one proceeds carefully there is a danger of only measuring the effect of perturbations. When measurements are being made it is all important to use a stationary time-variometer, in addition to the place-

variometer by which a certain extent of ground is measured point by point, for the electric and magnetic fields of the air can present in relatively short intervals of time important variations of intensity by reason of the effects of weather, temperature, humidity of the air, solar and cosmic radiation and many other causes. With the help of the values of the time-variometer, the variations of the total field which are not due to local causes can be eliminated.

On the basis of the measurements just referred to we can therefore state that:

Over zones of influence deviation from the normal fall of potential occurs, and over neutral ground deviations from the normal conductivity of the air. Furthermore over such zones deviations from the normal intensity of the horizontal component of the earth's magnetic field over neutral ground are recorded.

Now what dednctions are we to make from these observations? First I must say a word about the normal methods of any investigation. It has three stages:

1. Recording observed effects.
2. Formulating a working hypothesis.
3. Proving the correctness of the hypothesis by further experiments.

I have described point (1) in detail. As regards point (2) what I would now like to discuss more closely is an hypothesis which conforms with the present state of our knowledge and is capable of modification as a result of further research.

At the beginning I spoke about the exchange of charge between the earth and the atmosphere carried out by ions. A difference in the conductivity of the air can therefore be called a change in the number of ions per square unit of cross section, e.g., per cm.^{2} But if more ions per unit of cross section are flowing, conductivity is greater and surfaces of equipotential are further apart—and inversely.

We must now consider more closely the electrical conditions in the soil, with which electrical conditions in the air are naturally related.

It is well known that the earth's crust is traversed by the so-called terrestrial current. This is a continuous current of components of the most diverse origin. Its local strength will depend primarily on the electrical qualities of the soil. Good conductors, such as minerals will always act as collectors of current "threads," whilst bad conductors will only pass a very small current.

The quantity of ions emitted into the air above the ground, apart from the influence exerted in large areas by the electrical conditions of the air, uniform at any given time, depends strongly at any place on the quantity of ions carried into the soil and the facility with which they can be exchanged. Here we have a

connection between the quantity of ions present in the air and the electrical conditions of the soil.

Local heterogeneity in the fall of potential and conductivity of the air indicate therefore (in the lack of obvious causes of another kind) electrical heterogeneity such as is caused by minerals, water, fissures, faults and zones possessing a different conductivity from that of their surroundings.

What is the explanation of the recorded magnetic effects? The simplest explanation would be a magnetic conductivity of the soil differing beneath the places where different measurements are obtained. But a superficial examination will show that this cannot be the case. For how can a fault, or even water, produce the considerable effect so often observed?

Besides experiments have shown that magnetic and electrical effects are directly coupled. Dr. Wendler has proved that an influence exerted on the ions can be registered with magnetic apparatus when suitable precautions have excluded with certainty direct magnetic effects.

It is well known that any current produces a magnetic field around it, and the same is true for a single element of the current, the ion. Here too we are dealing with magnetic effects caused by the movement of ions. It is to be noted in this connection that Dr. Wendler has in the course of his magnetic measurements made corresponding observations in relation to the electrical conditions.

Good conductors in the soil show magnetic values higher than those on neutral ground; bad conductors, such as cavities, show a corresponding fall in magnetic values as compared with neutral ground.

As a result of our researches carried out to the present time we can now advance the following working hypothesis:

The agent known as earth rays which seems to issue from the ground over so-called zones of influence, must consist of free ions differing in number per unit of surface from those over neutral ground. These ions, in so far as they issue from the soil are normally of negative sign.

An objection to this hypothesis can always be raised, namely: the walls of a house and trees in a wood have a much higher conductivity than the air. Inside a room or in a wood practically no electric field exists and therefore ions of the kind described cannot be moving freely and so there can be no earth rays (though any dowser can always find them).

Reiter has made a technical examination of the question and has shown that in houses and in woods a measurable electrical field exists though much smaller than in the open air. This statement naturally applies only to houses the walls of which contain no great quantities of iron. The objection therefore falls to the ground, but I would nevertheless like to point a warning

for all of us dowsers, namely: that it is a fact of nature, that reactions inside a house are not so clear-cut as in the open, and it is therefore as well to carry out experiments as far as possible in the open.

Further experiments have shown that we have touched only one side of the phenomenon with the static effects just described. The working hypothesis is evidently incomplete.

Here I will mention only a few of the results already published which cannot be explained by the above hypothesis:

(1) According to Dr. Wendler's experiments the radiation can be deflected by a mirror. It is possible to deflect the radiation from its original direction with the help of mirrors and to prove its new direction by objective means.

(2) Dr. Wendler has equally proved the possibility of interference. By an appropriate arrangement of two emitters of similar rays the cancellation of the effect of both emitters can be proved objectively.

(3) Likewise diffraction of the radiation by means of a slit of suitable dimensions has been proved by Dr. Wendler.

(4) Dr. Henrich, of Hagen, in collaboration with the dowser Herr Dannert, established at the beginning of 1930 by exhaustive experiments that the effect on the rod of terrestrial radiation can be stopped by apparatus capable of producing suitable vibrations and of the appropriate size. These apparatus, the origin of the later Phylax instrument for cancelling radiations, are not capable of any static effects of an electrical or magnetic kind even at short range. Nevertheless its effectiveness has been established objectively by the double compass and the gerameter.

These examples should suffice.

We must now describe the whole process in order to reconcile it with these observations.

In the equalising current between the earth and the atmosphere we are dealing with a current of an order of 10^{-16} amperes. (For comparison the current through an ordinary pocket lamp of 70 milliamps is about 100,000 million times as great). These currents being so minute we can no longer speak of a combination of current threads. We are concerned with a process taking place in "pulses," rather like the flow from a tap which has been screwed down till the water issues in drops. We no longer have a current of constant strength but a pulsating current which may be represented figuratively by the edge of a saw. For a graph of this shape we have often used the expression "see-saw oscillation" (*Kippschwingung*).

A similar experiment was carried out by Phylax Ltd., in Hagen: by means of an emitter of "see-saw" oscillations an artificial field of earth radiations was created and, lo and behold! with this apparatus the same effects were produced on dowsers as are caused by natural zones of influence. It must be understood

that when the fundamental control experiments were being carried out all influences which might lead to suggestion were as far as possible eliminated. This generator of see-saw oscillations was used in 1935 and 1936 in the Kaiser Wilhelm Institute at Dortmund for biological experiments, and the results were in exact correspondence with those obtained over natural earth rays.

We are now in a position to widen our hypothesis. It can be accepted that above zones of influence there are moving charges which differ in quantity per unit of area from those over neutral ground and, in so far as they issue from the soil, are of negative sign, and further that this exchange of charge takes the form of pulsations which are analogous to see-saw oscillations.

Here we have the two fundamental characteristics which must be taken into consideration in all processes connected with earth rays, namely, their polar nature (negative ions) and their vibratory nature, and I must emphasise that this vibration is *not* electromagnetic.

I will end with a remark which is of importance to every dowser who uses a rod, namely, that it is inherent in the nature of the processes, the causes of which I have attempted to describe, that they are not constant in character. The air potential is subject to continual variations—even reversals of the air potential occur, particularly during storms when the earth becomes positive and the atmosphere negative. It is therefore evident, as has been shown by well-established measurements, that a state of zero potential can exist when the exchange of charges altogether ceases. The dowser, working biophysically, is then no longer in a position to identify a zone of influence as it is no longer distinguishable from a neutral area.

The possibility also exists that the minute effects which are being sought may be concealed by disturbing effects of one kind or another aroused perhaps by currents in service mains, cosmic influences (e.g., magnetic storms), abnormal conditions of atmospheric electricity during storms, strong winds (which scatter the packets of ions) or some other cause. Apart from the limits inseperable from a living organism the dowser cannot always function for purely physical reasons. There are days and hours when in all honesty he must admit that he cannot work. (Otherwise he is acting as a soothsayer !). By so doing we would save ourselves from many mistakes and in the long run secure respect and recognition.

Only by providing the best possible results can he help to disperse the atmosphere of occultism and magic in which dowsing has unfortunately been enveloped from the earliest times, and assist in its recognition as a branch of Science.

A DOWSER IN NEW ENGLAND

Since the beginning of the year several communications have been received from Mr. Elmer R. Batchelder, of Reading, Massachusetts, a keen dowser who is endeavouring to get dowsing recognised by the State in which he resides. Like many others he is firmly convinced that rays from veins of water which he calls Aqua Rays are one of the most devastating causes of ill-health, and has produced much evidence in support of this view. He gives details of some 32 cases of the adverse effects of these rays on the health of people whose houses are located above them, such as heart trouble, burning sensation, sleeplessness, arthritis, change in pulse rate and nervous trouble generally. Apart from moving the bed to another position in the room Mr. Batchelder has found that sheet copper placed under the bed and in some cases a pan of water as well, for preference of aluminium, have proved effective as neutralisers of the rays.

He has observed too that horses will not eat grass growing over affected areas.

Mr. Batchelder has tried to interest Dr. Charles A. R. Connor, Medical Director of the American Heart Association, in research on this question, but apparently without success.

For detecting underground veins of water he uses a very sensitive instrument, designed by engineers of the Sanborn Co., and constructed by his son. It will detect water flowing underground, but not static water, asphalte and slight mineral deposits. It equals the divining rod in efficiency and is far superior to the Geiger counter.

For many years Mr. Batchelder has used rods of various woods, e.g., witch hazel, sweet apple, peach, willow and wild cherry, fashioning them with long handles.

He has taught many pupils how to dowse, and finds that anyone whose thumbs have whorls making complete circles is a potential dowser.

He has made locations for wells in many fields in New England, for the most part under 20 feet in depth, many of them about 12 feet, and has traced underground pipes the exact position of which had been wrongly recorded. In locating minerals he uses a sample fixed at the fork. By the same device he can detect the product of any tree, such as maple sugar in a mixture, by using a twig or leaf as a sample. On this principle too he can trace cotton in woollen cloth.

PART THREE

TRACING THE LOST

BY J. CECIL MABY, B.Sc., A.R.C.S., F.R.A.S.

Mr. L. J. Latham's significant attempt to trace the body of the child Pamela Poirier, described in the last *Journal*, in some respects recalls a test at Kirtlington Park, near Oxford, some years ago, at a B.S.D. meeting organised by Mr. H. M. Budgett. What then happened in my own case, when I was virtually successful in locating a living boy who had hidden inside a hollow oak tree in the great park (whereabouts unknown to anyone present), may throw some further light on this problem.

At a central point in the extensive grounds, competitors were asked to take from a tin small fragments of a torn-up shirt that the boy had been wearing recently, for use as "samples." I took my piece, pressed it to my forehead, concentrated for a moment on the idea of finding him, then started off in the direction in which I was "impressed" to go, using an ordinary swivelling angle rod, which I tried to use as a mobile pointer. But I had not got far into a shrubbery when I began to get reactions to underground streams, &c. So I turned back and started over again.

The second time I simply concentrated "mentally," keeping my mind as blank and receptive as possible while turning slowly around, and was again "impressed" to follow my original route. This I did without using any mechanical indicator, only a vague instinct. I was led straight through the extensive shrubbery to the edge of the park itself. There I paused, but was "led" straight on to a group of large trees—not the only group, as far as I recollect. When I reached these trees I felt that I had come to the end of the trail, and I then looked up into them and behind them, searching for the lad in the ordinary way, instead of trying more divining or "sensing." But our "target" was not to be seen, so I returned once again to the starting point.

Repeating the performance once more, I was "led" to the same spot at the edge of the park, in line with the large trees, and still felt impelled in that direction. However, casting around (mentally) afresh I sensed that perhaps I should have gone from there to a point in a coppice on my left. So I followed this new line and penetrated some way into the wood, arriving suddenly and unexpectedly at a large shed containing pumping machinery. I then repeated my former mistake of searching the shed and environs with my eyes, without reward. I then gave up the search.

Subsequently, having reported roughly as above (I speak from memory, having lost the original account), I was told that the boy had actually been hidden in one of the large trees to which I had first felt drawn; also that he and his assistant had gone to the shed in the wood for a ladder (later replaced) by which to gain access to the hollowed interior of the tree. It can fairly be claimed, I believe, that I was successful, apart from actually *seeing* the boy inside the hollow tree!

In this case at least, therefore, a generalised, unspecified form of subconscious e.s.p. seems to have been used, without the neuro-muscular reflexes; though I still believe that *radiesthesia*, not any purely psychic faculty, was the means by which directional sense, syntonised with the "target," was achieved. And in such locational tests, whether with or without a rod as indicator, living objectives are by no means essential; nor, in some instances, such as location of unexploded bombs, is there any evidence of telepathy.

As to the false, but significant, trail to the shed in the wood, from which the boys originally fetched their ladder, that is another, more abstruse, problem. The "target" had, I suppose, both handled the ladder and walked along the track I followed to and from the shed, thus leaving a subtle (? radiesthetically perceptible) trail, though some hours old, that a dog might have followed by scent, even if a human being could not normally do so. On the other hand, when baffled in my first and more direct attempt to find the boy, I might conceivably have switched to a telepathic, e.s.p. faculty in order to get the idea of the shed in the wood. I might even have utilised that yet more remarkable psychic faculty known as retrocognition, or backward travelling in time, so as to gain some faint clairvoyant impression of the past event. But that seems most improbable in the circumstances, judging by my personal impressions at the time.

To decide between telepathy and radiesthesia in such a case, it would be needful first to attempt the same feat without any specific "sample" or "witness," supposed to provide syntonisation with the target; and that was not done, unfortunately. In bomb tests and numerous other experiments, however, the "sample" was found to be essential to success in direction-finding by dowsing, as the late W. H. Trinder would have readily confirmed had he still been alive.

As for pure chance and guesswork leading me to those two precise spots in Mr. Budgett's great park and gardens, in a beeline for the target, obviously such an interpretation would be ludicrous.

NOTES AND NEWS

Mr. H. N. Sanctuary writes as follows:

"I think you will be interested to hear of an experiment in dowsing which I have just carried out.

My neighbour dropped a small gold ring with a small topaz stone in her lilypond and asked if I would see whether I could trace the position of it for her, since she had felt all round the place where it fell and could not find it.

The pond is rather full of waterlilies with a fountain pedestal near the middle, and odd bits of ornamental stone wall about. There are at least twelve inches of soft firm mud with the lily roots embedded in it.

I was unable to work except at close quarters because the pond is in a very confined space and measures approximately 10ft. by 6ft., being oval in shape with the long axis running nearly East and West. I decided therefore to endeavour to obtain reactions from North, East, South and West moving in a clockwise direction.

I used a gold wedding ring as a sample and a whalebone rod and obtained good reactions which I pegged, and tied a garden line between North and South pegs, also East and West pegs. On checking with a small pocket compass, these lines ran North to South and East to West accurately with the compass.

The intersection of the two lines came over a large lily plant; and after feeling about by hand it was decided to dig up that plant, roots and all, and the mud immediately surrounding it.

This having been done, my neighbour asked me to give an opinion as to whether the ring was still in the pond or not; and I advised her that this would be difficult to decide upon since the removal of the ring would not necessarily remove a reaction owing to *rémanence*. However, I went and checked over the pond and found that the reaction had moved slightly to the West. She invited me to check up on the big lily root and the mud from underneath it, and both gave a clear reaction. I had the lily root taken to a piece of neutral ground and pinpointed a spot where the reaction was clearly defined. A close examination showed that the ring was not there. I tested the lump of mud from underneath the lily root and still got a reaction, and then I had to leave to return to my business.

The ring was found in the last piece of mud from under the lily root, after it had been washed and sieved very carefully by the workman employed by my neighbour.

The points of interest appear to be that:—

(1) the North to South and East to West reactions were very accurate.

(2) the ring left a strong *rémanence* right through the mud where it sank.

(3) there was still a clear reaction in the pool after the ring had been removed.

The highest praise for careful search must be given to the workman, whose name is, most appropriately, Mr. Jack Dawe.

There are one or two points which were of interest apart from the story above. I did a check up on my lines with a gold ring with a large topaz and obtained a reaction a few inches to the East of my results from a plain gold ring. This rather suggests that the ring sank through the mud with the topaz to the East.

There was no noticeable difference in the direction of the reactions with different positions of the sun.

The serial number of eleven for gold was strong and consistent throughout even in the *rémanence*."

* * * *

The following one inch sheets of the Geological Survey can now be obtained from Edward Stanford, 12-14 Long Acre, London, W.C.2, at 5/- per sheet.

The sheet of the Isle of Wight is in the B.S.D. Library.

7 Kielder Castle (Solid and Drift)	235 Cirencester
17 Carlisle	236 Oxford
18 Brampton (Solid and Drift)	238 Aylesbury
22 Maryport	239 Hertford
28 Whitehaven	245 Pembroke
37 Gosforth	254 Henley-on-Thames
35-44 Whitby	255 Beaconsfield
69 Bradford (Solid and Drift)	263 Cardiff
54 Scarborough	267 Hungerford
76 Blackburn (Drift and Solid)	268 Reading
77 Huddersfield	269 Windsor
83 Formby (Solid and Drift)	285 Aldershot
85 Manchester (Solid and Drift)	299 Winchester
87 Barnsley	314 Ringwood
137 Oswestry	315 Southampton
138 Wem	318 Brighton
139 Stafford	325 Exeter
141 Loughborough (Solid and Drift)	327 Bridport
153 Wolverhampton	329 Bournemouth
167 Dudley	337 Tavistock
168 Birmingham	338 Dartmoor
169 Coventry	342 Weymouth
204 Biggleswade	348 Plymouth
228 Haverfordwest	359 Lizard

All issued in "Drift" edition unless stated otherwise.

* * * *

A useful article on dowsing as an aid to gardening, by Mr. F. A. Archdale, appeared in *Popular Gardening* of August 12th.

There were notes in the *Daily Telegraph* of August 22nd and 23rd, and in other papers, about the assistance given by Mr. L. J. Latham (B.S.D.) in the search for the little girl, Dorothy Morris, who disappeared on August 12th at a Sunday School outing at Sandwich.

* * * *

In a letter to the *Weekly Scotsman* of August 31st, Miss A. Brown, of Rathdrum, Co. Wicklow, states that she has been successful in finding water in her district of Wicklow for the past 20 years. Her uncle divined water in South Africa for the Royal Engineers and her youngest niece is also a sensitive.

* * * *

The *Northampton Chronicle and Echo* of September 14th has a strange story about a well which was found beneath the surface of a road near the Town Centre in Northampton. In the mid twenties Mr. Warren, an employee of the Water Works, who has a life time's experience of water divining and well sinking was driving a heading across the road a few feet below the surface. About half-way across an ancient well was discovered, about 5ft. 3in. in diameter, beautifully lined with hand faced rock. Mr. Warren estimated the depth of the spring which supplied the well to be about 49 feet.

He discovered the well just prior to starting as a diviner on his own account. He has supervised the sinking of over 500 wells ranging from 15 to 185 feet in depth.

* * * *

The *Cape Times* of September 25th and the *Eastern Province Herald* had articles about a borehole 811 feet deep yielding about a million gallons a day on a farm in the semi-arid Coega area called Motherwell. The owner of the farm is Mr. B. S. Mattheus, who used dowsing methods to locate the bore. The supply, which is artesian, has converted the 750-morgen farm into a potential irrigation paradise.

* * * *

Several papers, notably the *Western Daily Press*, Bristol, of September 29th, have reported the successful boring of a well for Mr. Vernon Patch, of the Crown Inn, Winford, by F. C. Clements Ltd., of Easton, near Wells. The site was located by a Clifton dowser, but his forecast of depth, 80 feet, was 20 feet too small.

* * * *

A report by Robert Trumbull from New Delhi dated September 21st and published in the *New York Times* of October 1st contains an account of the remarkable work being done by Jeevram Vyas in locating water supplies. He is described as a 50-year-old Yogi and is now famous throughout India as Pani Maharaj (Water King). He is of the psychic type of dowser and can locate water on a map or by merely closing his eyes and pointing. He has been

made a member of the Rajasthan Underground Water Board at a salary of 500 rupees a month. A notable example of his work was the siting of wells at Faridabad, a refugee town near Delhi. It had been proposed to pipe water from the Jumna at considerable cost, but now eight tube wells are yielding an ample supply. Geologists are amazed!

* * * *

The *Eastern Province Herald* (Port Elizabeth) of October 4th states that one of several undergound water sources divined on the farm Joyleen, belonging to Mr. H. O. Frielinghaus, M.P., was yielding 50,000 gallons of sweet water a day. Water was struck at 80 feet and the strong flow reached at 150 feet.

* * * *

Mr. H. M. Lucy (B.S.D.) has kindly sent us some cuttings from the *Liverpool Daily Post* and *Liverpool Echo* of early October about the large underground lake which is supposed to exist under Bootle, about half-a-mile long and 600-800 feet deep. An inspection has recently been made of the wells, now disused, which used to supply Liverpool and Bootle, with a view to finding a shaft which is supposed to give access to a cavern at the edge of the lake.

* * * *

A useful article entitled "Finding Water,' by Sir Cyril Fox, in *Science News* 17 has the usual derogatory references to water diviners. As a mining geologist of many years' experience he considers only two cases of dowsing worthy of mention—perhaps because they were failures! Both cases were in India where many examples of successful dowsing are to be found. Strangely enough two of the diagrams clearly illustrate the advantage the dowser enjoys over the geologist. One shows a useless bore in granite which misses all the water-bearing fissures and the other a bore at one side of a silted up river bed. the position of which no geologist could possibly have fixed with any certainty.

* * * *

An illustrated page of *Zeit und Bild* of October 21st tells of another "death spot" on a national road in Germany (see *B.S.D.J.*, 69, p. 151). It is at Kilo 512 on the road between Frankfort and Darmstadt, where at a certain place fourteen accidents, some of them fatal, occurred between July 6th and September 4th. A common opinion was that the accidents were due to loss of control on the part of the drivers through the effects of "earth rays." Several dowsers examined the spot, and were followed by the well-known geophysicist Herr Rupp, who with his "Gerameter" marked out the zones where changes in the magnetic field occurred. The local commissioner of police attributes the accidents to bad driving and excessive speed, whilst the Road Board considers that they are due to the slippery surface after wet weather.

LETTERS TO THE EDITOR

Biophysical Laboratory,
Bourton-on-the-Hill,
Moreton-in-Marsh.

22nd September, 1950.

Dear Colonel Bell,

Two recent contributors to the *Journal*, both well known and successful dowsers themselves, have once more raised the question of " no water no pay " for professional operators who have faith in their personal ability.

This may appear fair enough at first sight, but I suggest that it is not really a sound working principle. My reasons are these :—

1. No geophysical prospection method can be guaranteed foolproof and infallible : there are too many variable factors and sources of interference and possible error. This the honest and experienced dowser also realises. At most, therefore, he can only assure his client that he will exercise all due care and skill, apply the best-known methods and theories, and, finally, advise his client to the best of his ability as to where to bore and what the approximate depth, yield, &c., are likely to be. *To offer absolute guarantees is neither honest nor sensible.*

2. The undertaking " no water no pay " would have to include a definite specification as to certain limits of depth, otherwise the client still has no protection and the dowser no proof of the correctness of his operations and predictions.

3. The amount of work involved for the dowser who carries out a careful and detailed survey remains the same regardless of the ultimate success or otherwise of the subsequent sinking. If he is of good reputation and has obviously done a conscientious piece of work on a given site or problem, he is then surely entitled to an agreed fee, like any other professional man (doctor, solicitor, accountant, architect, &c.). If doctors were only paid when their patients made perfect recoveries, solicitors when their clients won cases, accountants when the companies in question showed a good profit, and so forth, life would be very hazardous for them. And the more trouble arises the bigger the labour.

4. In my own experience many sites on which one has laboriously reported are not subseqently developed (no well or bore-hole being sunk, for one reason or another); and quite often I have to advise a client against wasting much good money on a bad risk or a more or less certain failure. After all, this is

better than giving golden promises that simply lead to loss and disappointment; so that such a client pays a few guineas in order to save himself a great many more.

A far more sensible and just arrangement than the "no water no pay" plan seems to me to be to charge so much outright for the actual field and office work involved by the initial survey, regardless of results, plus a further agreed sum on satisfactory completion of the well or bore, pumping test, &c., in reasonable accordance with the dowser's forecasts. My own practice is to propose this two-part plan if and when the water supply is required for some large-scale commercial undertaking; charging only a modest fee for the initial survey and report, so that the cost to the client is not excessive in the first place, in case the venture is a failure or it is decided not to proceed on the basis of the report.

Again, if a client is not well off or if the area is small, or the work involved relatively brief and simple, the dowser's fee may be proportionately reduced. He will then be held in good public esteem and not simply as either a magician who works miracles or a charlatan whose sole aim is to profit by others' misfortunes.

The serious dowser should also aim to employ whatever geological and local data, plus whatever instruments happen to be available, in order to confirm or amplify his craft. And he should be perfectly frank and open with his client or any spectators regarding the methods he employs, the theories on which they are based, the various difficulties encountered or anticipated, and the general prospects resulting from his observations. If things turn out badly or he is dissatisfied with his own work, the serious dowser should also be prepared to repeat or enlarge that work without extra charge, in so far as his conscience dictates. But he should not be expected to work for nothing or to wait months and even years (as it may be these days), until the contractor's work is finished, before being paid.

Occasional dowsers who are also their own hydraulic contractors (as was the older Mullins) can afford, perhaps, to adopt the "no water no pay" idea, since (*a*) they can be assured of large profits from the sinking costs, in any case that is successful, enough to cover occasional failures elsewhere, and (*b*) they themselves can hurry up with the contracting, so as to collect their money afterwards. But for ordinary dowsers to do likewise would mean that they had to overcharge some clients (the "lucky" ones) in order to make good their losses with others, and this appears to me to be most undesirable.

J. Cecil Maby.

REVIEWS

REVUE INTERNATIONALE DE RADIESTHÉSIE

No. 20

This number starts with an appreciation of M. Victor Mertens. He began to practise dowsing 30 years ago and is now well known as a radiesthetist of the first rank, especially in the matter of dowsing on maps in which he is highly successful. In 1937-38 he founded "Le Cercle d'Etudes Radiésthesiques de Bruxelles." In 1948 as a result of violent attacks against adherents of the movement he united all the clubs of the Grand Duchy of Luxembourg in a powerful confederation of which he was entrusted with the Presidency.

The next article is a description of the activities of this Federation written by the President himself. It has started an experimental scientific section composed exclusively of qualified scientists who do not practice radiesthesia officially. Professor L. Keffler has undertaken the direction of this committee.

Expériences relatives à la boite du Docteur Jarricott. There is a report by Dr. Keffler on the results of experiments carried out by the above committee in localising by the pendulum the position of a large horseshoe magnet or lump of metal inside a box containing 25 compartments, one of which is occupied by a chance method. As a result of a number of trials it was concluded that the human neuro-muscular system as expressed by the pendulum was superior to chance to the extent of 15 per cent. in the case of the magnet and 25 to 35 per cent. in the case of a mass of iron, and that there was no confirmation of the existence of any physical action on the neuro-muscular system, there being every indication that mental action alone entered into this type of experiment.

Aperçus Nouveaux en Radiesthésie. By M. M. Chaumery and de Bélizal, the inventors of the Universal Pendulum (described by J. L. Capes in an article in *B.S.D.J.* VI, 52, 350). After referring to the mental and physical theories of radiesthesia they mention a phenomenon which appears to have hitherto been unnoticed by radiesthetists, namely "the decomposition of a spectrum inside a sphere," the primary cause of which is the terrestrial magnetism, and an immediate result the movement of the universal pendulum. The authors state that this pendulum is not only a receiver but also an emitter of energy and suggests that radiesthetic energy can be produced not only by mass and "form," but also by movement, and draws a comparison with a Reese's saw which has a smooth edge and can cut metal without touching it.

La Physique des Rayons Terrestres. By Engineer Rolf Dieter Wetschky (a translation of an article in *Zeitschrift für Geosophie*). A study of the electric and magnetic conditions at the surface of the earth on zones of influence and of the electrical conditions of the air above them.

[It is proposed to include a translation of this article in Radio-perception.]

Une Branche de la Science, partiellement inconnue partiellement méconnue, nommée Radiesthésie (a branch of science, in part obscure, in part misunderstood, called Radiesthesia). Such was the declaration

of the Court of the Canton d'Esch, Grand Duchy of Luxembourg in the case of Henri Meier (B.S.D.), who was accused of having made a business of divination and interpretation of signs. The conclusion arrived at by the Court was that no person can be condemned for practising a branch of science, as do serious men of science such as the Abbé Mermet, which is entirely different from divination but is closely related to other aspects of science such as radar.

A propos des Ondes de Formes. By J. Martial. He explains his dislike of the term "waves" and prefers the wider expression "effect of form." He decries the attitude of certain radiesthetists who deny and ridicule observations made by others, for instance, the desiccation of perishable substances such as meat, &c. He advocates a more scientific attitude towards experiences they have not shared. It is because of this attitude that the solution of important problems such as the "effect of form" will stagnate until the day when by chance a learned member of the Institute will obtain definite evidence of the phenomenon and hurriedly make an impressive communication on the subject to the Academy of Science.

No. 21

The *Revue Internationale* has done us the honour of dedicating the whole of this number to "La Radiesthésie Britannique," and it opens with the following tribute (translated):

"The R.I.R. is glad to take the opportunity presented by the Congress of Radionics and Radiesthesia held at London in May last to do homage to English radiesthetists in general, to the British Society of Dowsers, to its distinguished President, Colonel A. H. Bell, to its organ *Radio-Perception*, to the very important work of Mr. G. W. de la Warr and his collaborators, to our eminent collaborator Mr. J. Cecil Maby and to a pioneer—Commander A. G. D. Bagot.

"We congratulate our British friends on their work, their energy and the quality of their productions and we send them our most cordial wishes in the hope that collaboration between all of them and our R.I.R. will ever become closer.

"We must add to this mark of honour our thanks to those who have contributed to it: to M. Pierre de Bondy, who has taken the main share in the translations, to Dr. Jules Regnault, to M. Alessandro-Gomez Brandao, who have given us the benefit of their great knowledge in the preparation of this number. *La R.I.R.*"

"N.B.—Our readers will not be surprised at our drawing special attention to the striking article by Mr. G. W. de la Warr, the text of which is printed below."

There follows a short description of the Congress in May and a brief note on the origin and work of the British Society of Dowsers.

La Manifestation de l'Energie Fondamentale, the translation of an article specially written for the *Revue* by G. W. de la Warr. The English original is also printed. The author refers to his discoveries in the sphere of fundamental Energy and the project which through a modulation of this Energy led to the inception of Acoustic Therapy. After many years of work he found that his "rates" were to be interpreted not in terms of wavelengths but of waveforms, and he eventually produced his Ultrasonic Treatment Instrument for treating the human cell, which was exhibited at the British Industries Fair in 1948. At a

conference of Ultrasonics held in London, under the auspices of the Department of Scientific and Industrial Research the efficiency of the instrument in the purification of water was demonstrated.

He then reasoned that if modulated air waves could produce the radiesthetic effect similar results could be produced by light beams, and this was proved to be the case. Hence the invention of the Delawarr Colorscope, which is being used by medical practitioners as a scientific instrument with known therapeutic properties. From the mass of information acquired were postulated the hypotheses, in terms of New Basic Laws of Physics, which were expounded at the Congress in May, to the effect that all forms of matter radiate a combined waveform related to atomic, structure and that the form of this wave determines the manifestation of fundamental energy.

As a further stage he holds that basic particles of matter are also manifestations of Fundamental Energy and conform to vortex patterns, the vortices themselves being the result of a succession of energy pulses following one another at a fantastically high frequency.

The next two articles are translations by M. de Bondy of two articles in *B.S.D.J.* IX, 67 (March, 1950), namely, " Fresh Water Supply in Coral Islands," by Commander A. G. D. Bagot, R.N., and " Psychical Physics : a critical appreciation," by J. Cecil Maby.

Under *Notes et Documents* are printed some extracts from " Notes and News " in the same *Journal,* and a letter from Lieut.-Colonel Stevelinck to M. Chouteau, advocating the freedom of a sick man to choose his own healer, and a procedure which might be adopted to secure the immunity of the radiesthetic healer before the law.

Le Sceau de Solomon is a reply by Dr. Regnault to an inquirer, in which he describes the nature of this magic emblem. According to M. Larvaron " it is a powerful emitter, and an assembly of four seals constitutes a very powerful neutraliser of the specific radiation of bodies."

La Radiesthésie Agricole. Under this head Baron de Dorlodot describes the dominating part played by meat and milk in agriculture in France.

La Radiesthésie en Allemagne. After an interval of eight years a Society of German radiesthetists has been reconstituted : it embodies the former Society of Dowsers of which Dr. Paul Beyer, who died in Berlin in 1945, was President.

The President of the new " Arbeitsgemeinschaft für Ruten und Pendel Kund " is Dr. Franz Wetzel. It has more than 400 members and publishes a journal every two months called *Zeitschrift für Geosophie und Odphysik.*

It held a three-day Congress in May, 1949, and is to hold another in August next year at Forchheim, near Nürnberg.

[The *Zeitschrift* is received by the B.S.D. in exchange for *Radio-Perception.*]

There is a note on a series of tests carried out at Marburg in 1949 under the control of seven University professors of that town. The tests consisted of (1) Locating a fault. (2) Finding the place where a doctor was struck by lightning. (3) Locating a fault and underground stream. (4) Giving the line of an underground stream, its depth and yield. (5) Locating a fault. In spite of the fact that all tests were

carried out successfully one professor persisted in saying that "he did not believe in it."

La Recherche des Eaux Suterraines. This is the introduction to a series of articles by M. G. Nicolas, author of *Guide du Radiesthésiste.* The articles will be illustrated and of a very practical kind. This preamble is mainly historical, but M. Nicolas refers to the confusion caused by the mixture of physical and psychic methods in use and considers that the small progress made in the technique of finding underground water is due to this cause.

The next and following instalments will deal with the search for water by the physical and psychic methods respectively.

This number ends with an excellent side face plaque of M. Pierre de Bondy and a note on his radiesthetic achievements.

A.H.B.

RADIESTHÉSIE POUR TOUS

August

p. 227. Roger Caro describes a simple apparatus based on Turenne principles for finding the direction and position of hidden or lost objects. It employs an electric torch without its battery mounted on a swivel support, and a small tube of radium bromide in the sixth homoeopathic dilution.

p. 231. A discussion on the encephalogram by the committee of *R.P.T.* is reproduced. The secretary, who has made a special study of this instrument, gave a short description of the waves detected by it. The brain (he said), whether of man or animal, generates very weak electric currents, which can be detected at certain points on the skull. They have to be amplified about 1,000 times to be detected. Actually there are several different waves. The best known today is the Alpha wave, because it is the most powerful and the most constant. It is most evident when the subject is in a state of relaxation, but not asleep. But when he is thinking or concentrating his mind, it disappears almost completely. It has a mean frequency of 10 per second. He went on to say that cerebral waves give no indication of psychic quality. A mentally weak person can have the same cerebral wave characteristics as one who is normal. The secretary gave no indication as to whether the encephalogram could be used for radiesthetic work.

p. 233. W. Servranx writes on the detection of fraud and the way to avoid radiesthetic mistakes. The only convincing results in radiesthesia, he says, derive from normal radiesthetic practice, such as the cure of sickness, detection of a water source, or finding a lost object. He emphasises the value of employing physical methods to avoid mistakes and to confirm results—perhaps arrived at in the first place by non-radiesthetic means—such as precise rule measurements, the fundamental ray, colours in harmony, serial numbers, syntonisation above all, mental orientation.

p. 237. Pierre Bories writes of science and radiesthesia and stresses the importance of studying the methods of those who have practised radiesthesia for a long time.

p. 239. F. Servranx continues his articles on radiesthesia in agriculture, referring this time to control from a map. He says he knows nothing more useful in agriculture than to have a map covering the

whole of the farm. It should indicate all buildings (even the smallest), wells, fountains, reservoirs, &c., roads, paths, and lines of trees (as far as possible each tree marked by a small black circle), hedges, borders, large thickets, &c., and different plots (according to soil, height, intended use, &c.). From this plan several tracings should be made, and on one of them search should be made with the pendulum for underground water, to be marked with a blue pencil. After going over the actual ground with the rod, you should correct this tracing as necessary and note the different depths found. It should be borne in mind that water at small depths is more likely to dry up in periods of drought, and you can rely more on water at a depth of 20 metres (65ft.) or over. M. Servranx advises the use of tracings so that observations can be kept from day to day of the water supply on the plan and the actual ground, and only then to transfer the water courses, on which full reliance can by then be put, to the first map. Next, places are filled in with hatching in red pencil on a tracing showing where people or animals having a high rate of sickness reside (such as houses, stables, chicken-house, &c.), where trees do badly, or where sharp differences are found in the growth of plants, indicating all these positions with hatching in red pencil and conventional letters. Then the tracing can be placed over the original map and it will be seen to what extent these positions coincide with the water courses; these positions, such as beds in houses, chicken-houses, &c., can then be moved as far as practicable, or the animals placed elsewhere. At this point one can search on the map for plots which are in urgent need of watering, hunt out the bad plots, plants and parasites, discover soil affections, and property needing repairs, such as hedges, fences, &c. And then, having marked where something is shown to be wrong on the map, one will often find at the spot something to which one's attention would not have been drawn, had one not been warned by the pendulum. The author goes on to describe how, on a large farm, it is possible to guard against poachers and theft and to know in advance what places need visiting. Friends of the author, who have adopted this method of control by a map—generally making daily surveys on it—have found it of definite use.

p. 241. Note on the control of sensibility. By J. Bervroux. If you hold the pendulum in your right hand over the thenar eminence of the left hand (or *vice versa* in the case of a left-handed person), the pendulum will begin to gyrate and you should count the number of gyrations. From 14 to 20 gyrations, the sensibility is passable, from 20 to 25 it is good, from 25 to 27 it is excellent, and from 27 to 32 it is abnormally high (as in the case of mediums). The thenar eminence is the mount at the base of the thumb bounded by the line of life, and the number of gyrations is over 10 and less than 32 for pendulists operating under normal conditions. All persons not paralysed have a number above 12-13, and 14 indicates the minimum sensibility required to become a dowser. A person who is already a radiesthetist should have a number not less than 18. As you become proficient in radiesthesia, your sensibility will increase, thus producing a higher reading. But you will seldom pass 24-25. Below 14 and above 27 a psychic disequilibrium is indicated. The author tells how one person's sensibility was raised from 15 to 19 immediately by placing a square piece of yellow-green paper in the pocket of his waistcoat.

p. 244. Report on the work of the experimental section carried out under the auspices of the Belgian-Luxembourg Federation of Radiesthetic Circles under the chairmanship of M. Keffler, president of the Scientific Commission.

p. 252. The report of an address on June 22nd by Henri Meier to the Brussels Circle of Telepathy and Radiesthesia. He deals with psychic faculties such as those described by Dr. J. B. Rhine and with foretelling the future, and states that Nostradamus (16th century) described the history of France and the West up to the fatidic year of 1998, when the hordes of Gog and Magog will invade Europe from the Far East and God will come and save the world from perdition.

SEPTEMBER

p. 259. Impregnations without contact. By Pierre Bories. The author refers to experiments carried out by M. R. Maréchal, whereby he was able to impregnate biological material with the radiations of a chemical substance without actual contact, and with the assistance or coils oscillating by induction with hertzian waves as found in the atmosphere (i.e., without any electrical connection). The author followed this up by carrying out experiments to determine whether dead physical material—as with living material—could be impregnated with a chemical. He used fixed coils as commonly found in radio equipment round about 1925, taking four of them with 50, 75, 100 and 200 turns, of which the frequencies corresponded with the short and long waves as used in broadcasting. He placed each coil vertically on a wooden support (with the axis of the coil horizontal) and closed the circuit by means of an insulated wire. He then placed two small glass bottles base to base inside one of these coils, one containing the chemical (solid and liquid) and the other solid matter of whatever sort. The bases of the bottles were linked by a suitable connection, and the bottles themselves were thus subjected to a magnetic field of high frequency. It was found that the solid body (sugar, for example), separated by two glass walls from the chemical (such as iodine, magnesium sulphate, &c), and at several centimetres from it, was impregnated with its influence, reaching a maximum in about 70 to 80 hours, depending on the coil used and the nature of the chemical. The maximum impregnation remained constant and lasted for two months. Similar impregnations have been carried out by the author placing the bottles under a pyramid consisting of an open framework of solenoids through which a current of 1 volt was passed. The author thinks his experiments should give a little more credence to those who, like himself, think that in certain cases a magnetic field augments the radiation of matter and rapidly induces impregnation at a distance.

p. 263. Errors in radiesthesia. Jean Martial gives two interesting instances of these errors. The first, taken from an article in *R.I.R.* by M. Mertens, tells how he sought by radiesthesia for a dog of a certain breed, using some of its hair. He localised it on a map about 50 kilometres from the place where it had disappeared in a private property near Antwerp. The author communicated with the owner of the dog, who went to the place indicated and found an animal similar to his own. But the dog turned out to be a brother of his own dog. An error due to consanguinity ! The second case concerns a M. Badot, to whom a small photograph of a husband and wife side by side had been submitted in February, 1945. There had been no news of these people

since the flight (from the Germans) in 1940. M. Badot examined each person in turn, covering the other one with a piece of black paper, and his researches gave the following results. The husband could be found at Cholet and the wife at Carnac, a small town of some 3,000 inhabitants. When M. Badot returned some time later, he was disagreeably surprised to learn that the married couple had been killed at Brest during a bombardment. But—and this is where the mistake becomes more interesting to radiesthetists than a success would have been (*sic*)—it was found that the married couple's son was living at Cholet and at Carnac was living a female relative of the deceased, who also bore the same name. The author assumes that in the first case M. Mertens did not make the mistake of asking himself where there was a dog of the same breed as the hair he was using as a witness, but where there was *the* dog to which the hair belonged. Was there some failure in mental concentration or orientation? M. Martial leaves it for the reader to decide for himself. He also dilates on the cause of the second error.

p. 269. Remedial belts, collars and bracelets. By F. and W. Servranx. The works of G. Lahkovsky have made known the idea of oscillating circuits for medical use, for veterinary practice and for their remarkable effects on vegetation. Some very good circuits are on the market, but the authors make some appropriate observations on their use. Unfortunately, radiesthetists who prescribe these circuits successfully often keep their methods secret for fear of being accused of unlawfully exercising the healing art. These circuits consist of an insulated metal wire with the ends overlapping from 1 to 3 cm. so that their ends do not touch. Such a circuit, the authors says, is excited by electromagnetic vibrations in its surroundings and it emits its own wave and numerous harmonics. Carried by a living being—man, animal or vegetable—it "reacts" on the subject. But here the process is still obscure. Ordinarily the subject will become less sensitive to the effects of his surroundings and of terrestrial radiation. That is not always a good thing, but it is often good where harmful earth or other radiations exist. It is very difficult to make a radiesthetic diagnosis of a person wearing a coil. The subject wearing the coil will often experience an inward heat (indicating a change in metabolism) and a resistance to fatigue. These circuits are marvellous in cases of migrane and insomnia (certain tribes in the Congo place an iron coil round the head to cure a headache), but on the other hand the wrong use of a coil may bring on these troubles. Thus these coils should not be considered as a universal form of treatment or always to be considered in ill-health. The pendulum should be used to ascertain where a circuit may be placed, whether round the ankles, the waist, the neck, wrist, &c., and what metal should be used—which may be copper, iron, silver, gold or lead. Brass can be tried, or two or more metals used together but insulated from each other. For belts, collars and bracelets, you should beware of zinc or aluminium, especially when used alone. According to the authors, the colour of the insulating material is important, but the thickness of section of the wire does not matter. Not more than one turn of the wire should be made. Dosage is important, for it may be found necessary for the coil to be worn during the day, the night, or for a few hours at a time. It may be worn next the skin or over the clothes. These oscillating circuits,

the authors state, will not cure everything, but they act as an adjuvant and can be used with other treatment. Nothing is said as to the necessity of placing the coils with their positive and negative ends the correct way round, as emphasised and demonstrated in this country by the late Dr. Ernest Martin, who also disapproved of wearing these coils at night. As to belts, the authors mention that it is preferable to place them with the overlapping ends over the spine rather than across the abdomen.

p. 273. A circular protractor devised by Mr. T. C. Garland, Greenacre, Fairoak Lane, Oxshott, Surrey, is reproduced, with which it is claimed that the age of prehistoric objects and archæological works up to 25,800 years old can be determined. It is based on the phenomenon of the precession of the equinoxes corresponding to an annual displacement of the N—S axis of the earth by 50.27 seconds, and it takes about 26,000 years for the terrestrial axis to return to the same point. The protractor is 40 cm. in diameter, and Mr. Garland uses a boxwood pendulum painted black for his researches. The method is based on that of M. J. Dejond, as described in *R.P.T.* for June, 1948.

p. 275. Radiesthesia in agriculture. By F. Servranx. In this seventh article on the subject the author describes a way of deciding the size of a crop before the land has been sown. You place to your right a plan of the land under consideration and on your left a witness of the crop. Then on a 100° disc placed between the two you find by pendulum the probable yield (such as hundredweights per acre) simply by concentrating on the result (mental orientation " pure and simple "). This method has no scientific basis, but has been found of considerable use in practice. The author also describes how the money value of the crop can be assessed in advance.

p. 277. Radiesthesia and the problem of consciousness. By Henri Souti. In a long discourse the author recalls a saying of Professor Coué that it is faith that creates, not desire. And he adds that this principle should be applicable to radiesthesia. He discusses intuition at some length and recalls the remarkable story of a boy of 12, recounted in *Le Monde Invisible*, by Cardinal Lépicier. In 1841 this boy was subjected to the exorcisms of the church at Ariano in Italy, and was told by two Dominican fathers to express theologically in a sonnet the fact of the Immaculate Conception of the Virgin. The boy, although illiterate, improvised a beautiful poem, which a learned theologian would only have been able to accomplish with the utmost difficulty. Written in Italian, the author gives a French translation. It is said that Pope Pius IX, when reading this poem in 1854, the year when the dogma of the Immaculate Conception was promulgated, shed tears of pious emotion.

p. 283. Henri Meier reproduces a letter from the Rev. P. Schill, S.J., Cath. Mission Mamarla, P.O. Basia, Ranchi Dt. Bihar, India, in which this priest says that his divining rod has rendered him good service since his return to his post in India in August, 1948. People have come to him from all parts, not only the converted, but equally Hindus, Mohammedans and heathens. He has found hundreds of sites for wells. In one village the inhabitants were preparing to leave, for they had no water in summer. The only well they had struck, at 16 metres (52ft.) deep, dried out as early as March. Father Schill

discovered a subterranean stream for them five metres (16ft.) deep only. He states in his letter that when he finds "magnetic emanations" on two sides of a subterranean flow of water, he can state that they are damaging to health. Thus has he been able to cure many people who were warned by him not to sleep above dangerous zones discovered in this manner. One boy of 16 became mentally affected, and it was found that his bed was above an underground stream. After taking Father Schill's advice, the boy was completely cured in a year. Several epileptics were cured in the same manner. Father Schill is asked from all quarters to examine houses, and he went on to say that many cows living in stables overlying subterranean streams have perished.

OCTOBER, 1950

p. 289. A description of the presentation of the Legion of Honour by M. Catoire, Minister of Health in France, to Abbé Bouly, is quoted from *La Voix du Nords*, Lille. The presentation was made on account of Abbé Bouly's contribution to science through his work on radiesthesia.

p. 291. Initiation in medical radiesthesia. By W. Herrinckx. This the first of a series of articles in which the author refers to the works of C. Voillaume, which shows that it is possible to discern by radiesthetic perception the condition of a sick person at some distance away. Notably, nerve and sympathetic radiations can be detected in this way, and it is easy to detect the sympathetic at the height of the solar plexus, where the influence extends as far as 60 cm. Other positions from which these radiations can be detected are the chin, the mesenteric plexus (at the level of the navel), the sacral plexus and the knees. It is from these points that the patient sends out characteristic sensations, which the practitioner or healer detects. A method of diagnosis mentioned is to place the patient on your left, contact him with your left hand and hold your pendulum over an anatomical chart in front of you. The pendulum will react over the chart just as it would have reacted by the direct pendulum method of diagnosis.

p. 295. Radiesthesia and animals. In this article Pierre Bories recalls experiences he has had with animals and tells of a small dog whose hair one day lost its gloss and whose body became covered with spots, so that his skin was irritable and unhealthy. Various remedies were tried, but without effect. The animal was eventually taken to a veterinary hospital, where it was learned that treatment would have to go on for a long time, and then perhaps without result. Every day the dog was taken to the hospital for treatment, but with no amelioration of the condition. Then one day, after a further visit, the dog stopped in the road on the way home before a pile of quicklime, smelt it and rolled in it, so that he was covered in white. He seemed proud of his exploit! This was not without reason, for several days afterwards, after being brushed, he was again taken to hospital, where it was found that the skin affection was in a fair way to being healed. The dog had found his remedy! M. Borries also tells how, when one of his cats disappeared, he became convinced that it was dead. But his pendulum indicated that its vitality was normal, after a method used by Dr. Marty. On the tenth day the cat, which had been shut

up by a gardener in a small outhouse to destroy rats, turned up. M. Bories adds that his subconscious mind had, through his pendulum, been a better guide than his reason.

p. 299. This article is about the cures of Mesmer and of his tub, or bucket, technique. The "tub" consisted of an equipment which allowed vital magnetism to collect in such a manner that a number of patients could be treated at the same time. Frédéric Antoine Mesmer was born on May 28th, 1734, and died at Mersbourg on March 5th, 1815. He took up medicine as a profession and received his doctorate at the University of Vienna in 1766, after submitting a thesis on "The Influence of the Planets on the Human Body." From that time he established the existence of a force which penetrates all bodies and fills the Universe. He obtained remarkable cures in Vienna and attracted the wrath of other medical practitioners. He went to Paris in 1778, where he began treating his patients privately. He was so successful, however, that the public crowded to him and obliged him to treat them in groups, making them form chains. He touched them, put himself in harmony with them and set up currents (or magnetic fields) by making passes. He worked with his hands, but he also used a glass or iron rod of 30 to 45 cm. long. He excited some patients and calmed others so as to bring about the "symptomatic crisis," which he considered beneficial. His treatment was in public and he was generally assisted by another doctor, while other medical men attended the meetings. He sought to augment the healing effect of his treatment with bottles of water, trees and magnetic reservoirs. That is the origin of the "tub." The article goes on to describe the tub, an accumulator of animal magnetism used to treat several persons together. A pupil of Mesmer, the Marquis of Puységur, also used the tub, but he soon replaced it by a tree, for he thought that there already existed in the tree a vital force which could be augmented by human magnetism. On his property at Busancy he chose an oak, to whose branches cords were attached. The patients, seated under the tree, held the ends of the cords in their hands or twisted them round their bodies. The results were apparently convincing. It is emphasised that de Puységur magnetised the tree very conscientiously before treating his patients with it. Like the bottles of water and Puységur's oak tree, the tub of Mesmer was only a "relay" of vital magnetism, to be filled with vital magnetism which was passed on to the patient. The article goes on to say that, generally speaking, in all arrangements for the transfer of magnetic force, it is better to use dielectric conductors, and if possible thick cords such as are employed for roller blinds and tapestries. *R.P.T.*

p. 303. Radiesthesia in agriculture. This is the eighth article by F. Servranx on this subject, in which he deals with cosmic influences. Old country folk will tell you, and with reason, that you should sow and plant everything which grows up above the soil when the moon is waxing. Similarly everything whose growth and development takes place mostly underground should be planted when the moon is waning. The new moon favours herbaceous plants most and the full moon grain. Vines pruned during the new moon produce more shoots and fewer grapes. According to André Barbault wood should be cut during a waning moon, which reduces humidity in the vegetable tissues or interstices. Wood keeps in good condition except when

cut during the new moon, when it tends to become worm-eaten. In the same way fruit should be gathered during a waning moon to preserve it from rot, and one should not make cider under a crescent moon, nor bottle wine or cider, nor make jam, for then the sugar will come to the top. Neither should vegetables be preserved at this time in case they ferment at each lunation. The author goes on to say that it is not unreasonable today to speak of solar-lunar influences on vegetation. The study of cosmic radiation reveals other influences, and besides the physical radiations already discovered, there are many vital and mental influences of the stars and of the infinity of the Cosmos, influences which were known to the ancients and which our civilisation will re-discover one day. He reproduces a circular diagram, published in *R.P.T.* for July, 1948, from which it can be determined by pendulum when to till the earth, when to sow and when to fertilise, &c. It is also said to be able to indicate what you should sow and what is the best time to buy your seeds.

p. 305. According to a report from Roger Caro, of the Marseilles Centre of Radiesthetic Studies, new successes have been achieved in archaeological excavation through radiesthesia. As a result M. Caro with another radiesthetist, has now been given an official mission by an authority whose name he gave to *R.P.T.*, but which the journal has not published for fear of the efforts of detractors to stop the mission.

p. 306. This article, by J. Bervroux, discusses radiesthetic equipment for the benefit of amateurs, such as rods, amplifiers, compasses, colours and witnesses. Watercolour paints, crayons or ribbons make satisfactory colour witnesses, and the essential colours are black, white, red, orange, yellow, green, blue, indigo, violet, grey, yellow-ochre and brown. A very good amplifier for the beginner is a decagon (a ten-sided figure) drawn in Indian ink on white paper of about 5 cm. diameter, on which the item to be examined is placed. If an actual sample or witness is not available, a word-witness can be used. This should be written in pencil or ink (Indian ink is best) in small capital letters on a piece of square paper with sides of about 3 cm. Normally a word-witness improves with age. At the end of three days it is equal, so the article states, to a natural witness—i.e., it is reinforced! It can be reinforced immediately by placing it for about five minutes on a decagonal diagram.

p. 309. In this article C. Chumaher discusses the small homoeopathic dose. One of the advantages of the homoeopathic remedy, he points out, is that it is non-toxic. Its quality resides in its dynamism.

p. 314. Prospection at a distance. This is an extract from the book *Le Pendule Mystérieux* by Claude V. Johnson. On the subject of orientation of a map when map-dowsing, the author says that contrary to the statements of some radiesthetists, it is not generally necessary to turn the map with its north pointing to the North Pole. This orientation is only necessary when the actual place where the operator is situated is on the map.

p. 319. This is a second article by *R.P.T.* on food and vitality—on what one should, or should not, eat.

V.D.W.

BRITISH SOCIETY of DOWSERS

The ANNUAL GENERAL MEETING will be held at the ROOMS OF THE MEDICAL SOCIETY OF LONDON, 11 CHANDOS STREET, CAVENDISH SQUARE, W.1, **at 3 p.m., on Wednesday, 15th October, 1952.**

AGENDA

1. Minutes of the previous Meeting
2. Report of the President
3. Accounts
4. Election of a President, Vice-President and two Councillors
5. Election of Auditor under Rule 30
6. Any other Business

As regards (4), under Rule 20 Colonel Bell retires as President and offers himself for re-election.

Under Rules 21 and 22 Mr. O. F. Parker retires as Vice-President and offers himself for election as a Member of the Council, but not for re-election as Vice-President.

Under the same Rules Mr. Wethered and Colonel Merrylees retire from the Council.

Mr. Wethered is prepared to serve as a Vice-President and Colonel Merrylees offers himself for re-election as a Member of the Council.

It is therefore proposed that Mr. Wethered should fill the vacancy for Vice-President, and that Mr. Parker and Colonel Merrylees should fill the two vacancies as Councillors.

The attention of members is drawn to the latter parts of Rules 21 and 30.

The Meeting will be followed by tea, and at 4.30 Mr. L. J. LATHAM will give a lecture on :

Accuracy Factors in Dowsing

Members are invited to bring a friend to the lecture.

THE BRITISH SOCIETY OF DOWSERS

RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 30TH JUNE, 1952

1951		RECEIPTS	£ s. d.	£ s. d.
£	£			
	338	Subscriptions—Annual		356 0 11
	42	„ —Life		68 5 7
	31	Entrance Fees		32 0 5
	25	Meetings		20 19 4
	41	Sales—Journal		44 2 0
	47	„ —"Dowsing"		37 14 1
	100	„ —"Health and the Pendulum"		100 0 0
	22	„ —"Radiations"		19 11 7
	1	„ —Badges		17 3
	12	Donations		1 1 0
	2	Miscellaneous		8 5 1
		Interest—Gross—		
6		On Defence Bonds ..	6 0 0	
11		On Post Office Savings Bank Deposit ..	10 17 0	
—				
17			16 17 0	
8	9	*Less* Income Tax due thereon at 9/6 in the £	8 0 1	
—				8 16 11
	79	**Balance** being Excess of Payments over Receipts for the year		—
	£749			£697 14 2

1951		PAYMENTS	£ s. d.
£	£		
	178	Printing of Journal	261 3 5
	79	Copyright of "Dowsing"	—
		Expenses of "Health and the Pendulum"—	
	227	Publication	—
	—	Insurance	1 4 6
	—	Expenses of "Dowsing"—Publication ..	15 7 1
	1	Expenses of "Radiations"—Insurance ..	11 6
	71	Meetings	78 5 0
	113	Office Expenses	113 12 10
	16	Printing and Stationery	25 4 1
	52	Postage and Cheque Books	57 12 9
	4	Grants and Donations	—
	1	Library Purchases	1 4 3
	1	Insurance	—
	5	Miscellaneous	3 8 9
	1	Corporation Duty	16 7
		Balance being Excess of Receipts over Payments for the year	139 3 5
	£749		£697 14 2

BALANCE SHEET AS AT 30TH JUNE, 1952

BALANCE SHEET AS AT 30TH JUNE, 1952

1951 £	£		£ s. d.	£ s. d.
		Surplus Account—		
905		Balance as at 30th June, 1951 ..	825 12 4	
79	826	*Add* Excess of Receipts over Payments for the year	139 3 5	
				964 15 9
		Research Fund—	1,010 0 0	
		Add Interest accrued *less* Tax due thereon at 9/6 in the £	8 11 0	
				1,018 11 0
		Creditors—		
		Inland Revenue—		
	8	Income Tax on Research Fund Investment Interest	7 15 2	
		Income Tax on Interest on Post Office Savings Bank Deposit and Investment ..	8 0 1	
				15 15 3
£834				£1,999 2 0

1951 £	£		£ s. d.	£ s. d.
	199	**Balance at Bank and Cash in hand**		334 19 0
		Cash on Deposit—		
		Post Office Savings Bank—		
424		Balance as at 30th June, 1951 ..	434 15 0	
11	435	*Add* Interest ..	10 17 0	
				445 12 0
		Investment—		
	200	3% Defence Bonds		200 0 0
		Research Fund Investment—		
		3% Defence Bonds	1,010 0 0	
		Cash	8 11 0	
				1,018 11 0
	£834			£1,999 2 0

We have prepared the above Balance Sheet and the Receipts and Payments Account attached thereto from the Books and Vouchers of the Society and certify the same to be in accordance therewith.

Salisbury House, London Wall,
London, E.C.2.

11*th July*, 1952.

JAMES, EDWARDS & CO.,
Chartered Accountants, Auditors.

BOOKS AND APPLIANCES

The Editor will be glad to receive old copies of B.S.D. Journals, especially of No. 54, and of English books on dowsing.

* * * *

Mumetal rods for depthing can be obtained from the Telegraph Construction and Maintenance Co. Ltd., Telcon Works, Greenwich, London, S.E.10, for £3 17s. 6d.; delivery in 10 to 12 weeks.

* * * *

Messrs. Devine & Co., St. Stephen's Road, Old Ford, London, E.C.3, supply whalebone strips 12in. long of the following sections at 5/- per pair:

Flat	.. ..	7 mm. x 2 mm. or 3 mm.
Circular	.. ..	3 mm. or 4 mm. in diameter
Square	.. ..	3 mm. or 4 mm.

Also spherical whale ivory pendulums at 10/- each.
Prices of other sizes of rods and pendulums are given on request.
All prices post free in U.K.

* * * *

The "Link" divining rod described by Mr. Guy Underwood in his article on Spirals and Stonehenge (*B.S.D.J.* 62, Dec., 1948) can be obtained from him at Belcombe House, Bradford-on-Avon, Wilts, price 8/- post free in U.K. Reprints of this article are available at 2/- each. Reprints of 10 Essays and Lecture, 15/- the set.

* * * *

Price list and photographs of the full range of Delawarr Instruments can be obtained on request from Delawarr Laboratories, Raleigh Park Road, Oxford.

* * * *

Price list and instructions regarding radiesthetic Rules and Witnesses, appliances for broadcasting favourably to plants and humans, and for radiesthetically vitalizing foods, are obtainable from Animal and Plant Studies, Moulsham Mill House, Chelmsford.

Keepers of poultry may be interested to know that a limited number of samples of poultry diseases is obtainable from M. Turenne, through Mr. Macbeth, at the price of 12 - per set of eight witnesses.

* * * *

Copies of *Dowsing* by Pierre Béasse can be purchased from the Markham House Press Ltd., 31 Kings Road, S.W.3, for 12/- post free. The Schumfell radio-magnetic detector described in the book can be purchased by members from the author, 37 Rue Rossini, Nice, A.M., France, at a reduced price of £3 12s.

* * * *

The *Electronic Medical Digest*, published quarterly by the Electronic Medical Foundation, San Francisco, can be obtained through the Biotechnic Press Ltd., BCM/Biotechnic, London, W.C.1, at 19/6 per year.

* * * *

La Revue Internationale de Radiesthésie, which contains contributions from many countries on all aspects of Radiesthesia, and is issued every two months, can be obtained at Editions Palatines, Grand'Place, Mettet, Belgium; subscription 250 Belgian francs per annum.

* * * *

Radiesthésie pour Tous can be bought at The News Stores, 10 Coptic Street, British Museum, London, W.C.1, at 2s. per copy.
Twelve consecutive copies can be ordered through Mr. Noël Macbeth, Moulsham Mill House, Chelmsford, Essex, for 25/-.

* * * *

Members requiring any of the books or appliances mentioned above should apply direct to the address given, and not to the Assistant Secretary.

CHARLES CLARKE (HAYWARDS HEATH) LTD.,
PRINTERS.